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*Draft*

# **Joint Dominguez Gap and DeForest Treatment Wetlands Project Draft Environmental Impact Report**

(SCH #2005011101)

Prepared for  
**County of Los Angeles  
Department of Public Works**

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# Acronyms

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µg/m <sup>3</sup>	microgram per cubic meter
ADT	Average Daily Traffic
AQMP	Air Quality Management Plan
ASTM	American Society for Testing and Materials
BACM	best available control measures
BMP	best management practices
CAAQS	California Ambient Air Quality Standards
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Acts
cfs	cubic feet per second
CMP	Congestion Management Program
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CWA	Clean Water Act
dBA	decibels
DPW	County of Los Angeles Department of Public Works
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
FESA	Federal Endangered Species Act
I-710	Interstate 710
ICU	Intersection Capacity Utilization
LARIO Trail	Los Angeles River Trail
LOS	level of service
msl	mean sea level
MTA	Los Angeles County Metropolitan Transportation Authority

NAAQS	National Ambient Air Quality Standards
NO <sub>2</sub>	nitrogen dioxide
NOI	Notice of Intent
NOP	Notice of Preparation
NO <sub>x</sub>	Nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
O <sub>3</sub>	ozone
OPR	Governor's Office of Planning and Research
Pb	lead
PM <sub>10</sub>	Particulate matter less than 10 microns
ppm	part per million
Project	Joint Dominguez Gap and DeForest Treatment Wetlands Project
River	Los Angeles River
ROG	reactive organic gases
RWQCB	Regional Water Quality Control Board
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SO <sub>2</sub>	sulfur dioxide
SO <sub>x</sub>	sulfur oxides
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TIA	Transportation Impact Analysis (
UBC	Uniform Building Code
USACE	United States Army Corps of Engineers
UTM	Universal Transverse Mercator
V/C	volume-to-capacity

# Executive Summary

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## Introduction

The County of Los Angeles Department of Public Works (DPW) has proposed the Joint Dominguez Gap and DeForest Treatment Wetlands Project (Project). The proposed Project is located within the City of Long Beach, as shown in Figure ES-1, and is comprised of the Dominguez Gap Spreading Grounds and the Market Street Basin. The proposed Project would implement a multipurpose wetland development that would (1) provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation, and education; (2) be safe for passive public use; and (3) require minimal maintenance while retaining the existing flood control capacity.

## Purpose of this Document

This Draft Environmental Impact Report (EIR) addresses the potential environmental impacts that are anticipated to result from construction and operation of the proposed Project. The Draft EIR has been prepared in accordance with the California Environmental Quality Act (CEQA). DPW is the Lead Agency for the CEQA process and has independently evaluated, directed, and supervised the preparation of this document.

## Description of Proposed Project

The proposed Project is comprised of improvements at the existing Dominguez Gap Spreading Grounds and Market Street Basin. The proposed Project would implement a multipurpose wetland development that would provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation, and education; be safe for passive public use; and require minimal maintenance while retaining the existing flood control capacity.

The proposed Project elements include the following:

- Landscape and planting of native plant communities
- Construction and operation of an extensive treatment wetland with riparian and wetland habitat in the East Basin of Dominguez Gap Spreading Grounds
- Construction and maintenance of riparian habitat along the edges of the West Basin of Dominguez Gap Spreading Grounds
- Attainment of enhanced groundwater recharge in the West Basin that is equal or greater than the current recharge of the East and West Basins combined
- Construction and maintenance of wetland and riparian habitat in the Market Street Basin
- Placement of passive recreational features such as trails, bird blinds, shade structures, and interpretive signage at both sites

- Construction and operation of trash removal devices at major storm drain outlets to all basins
- Construction and operation of a Los Angeles River (River) water diversion structure to divert water to the Market Street Basin
- Utilization of the existing diversion structure from the River to East Basin of Dominguez Gap Spreading Grounds

## Project Alternatives

This Draft EIR addresses two alternatives to the proposed Project. Specifically, these include the No Project Alternative and Alternative A.

The No Project Alternative would result in the continued operation of the Dominguez Gap Spreading Grounds and Market Street Basin for the purpose of flood control and groundwater recharge. The No Project Alternative would not realize many of the multipurpose functions of the proposed Project, including improved water quality for groundwater recharge and Los Angeles River discharge, improved and expanded habitat for wetland and riparian species, expanded passive recreation, and an environmental education resource.

Implementation of Alternative A would entail leaving the existing grade of the proposed Project area in its current form. Site modification would be limited to revegetation with native scrub and planting of riparian vegetation. Alternative A would not realize some of the multipurpose functions of the proposed Project, including improved water quality for Los Angeles River discharge, expanded passive recreation, and an environmental education resource.

## Major Findings and Conclusions

All identified potentially significant impacts resulting from construction and operation of the proposed Project can be mitigated to a less than significant level. These potential impacts and proposed mitigation measures are summarized in Table ES-1. Detailed information regarding these potential impacts is available in Chapter 2 of this Draft EIR.

## Areas of Known Controversy

Section 15123 of the CEQA Guidelines requires EIRs to include areas of known controversy. Following a review of the comments received on the Notice of Preparation (NOP), there are no areas of known controversy related to the proposed Project.

## Summary of Project Impacts and Mitigation

Table ES-1 briefly describes the potential significant impacts by resource area, identifies the mitigation measure to be implemented to reduce the impact to below a level of significance, and shows the level of significance after mitigation.

TABLE ES-1  
Summary of Project Impacts and Mitigation Measures

Potentially Significant Impact	Mitigation	Level of Significance After Mitigation
<b>Air Quality</b>		
Construction emissions would result in an exceedance of the SCAQMD significance criteria for PM <sub>10</sub> .	<p>Mitigation Measure AQ-1: Air Quality</p> <p>The following control measures would be implemented during construction of the proposed Project to minimize fugitive dust emissions:</p> <ul style="list-style-type: none"> <li>• The area disturbed by clearing, grading, earth moving, or excavation operations should be as small as feasible to prevent excess dust.</li> <li>• Pregrading/excavation activities should include watering the area to be graded or excavated before commencement of grading or excavation. Application of water (reclaimed, if available) should penetrate sufficiently to minimize fugitive dust during grading activities.</li> <li>• Trucks should be required to have their loads covered as required by the SCAQMD.</li> <li>• Graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved onsite roadways, shall be treated to prevent fugitive dust. Treatment should include, but not be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or toll compaction as appropriate. Watering should be done at least twice daily.</li> <li>• Inactive graded and/or excavated areas should be monitored at least weekly for dust stabilization. Soil stabilization methods, such as water and roll compaction and application of environmentally safe dust control materials, should be periodically implemented over portions of the construction site that are inactive for over 4 days.</li> <li>• Signs should be posted to limit traffic to 15 mph or less.</li> <li>• During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), clearing, grading, earth moving, and excavation operations should be curtailed to the degree necessary to prevent fugitive dust created by onsite activities and operations from being a nuisance or hazard to offsite properties.</li> <li>• Adjacent streets and roads should be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.</li> </ul>	Less Than Significant

TABLE ES-1  
Summary of Project Impacts and Mitigation Measures

Potentially Significant Impact	Mitigation	Level of Significance After Mitigation
<b>Biological Resources</b>		
The loss of sensitive biological resources resulting from construction activities.	<b>Mitigation Measure BR-1: Biological Resources</b>  A worker awareness handout would be provided to all onsite personnel. The handout would specify sensitive biological resources, protection measures, and individual responsibilities. The handout would also identify appropriate contact procedures and personnel information should sensitive biological resources be encountered.	Less Than Significant
Impacts to breeding birds, including special-status birds, from construction activities.	<b>Mitigation Measure BR-2: Biological Resources</b>  Vegetation would not be cleared until June 15 (if feasible) when the young have fledged the nest, to avoid impacts to breeding birds. This would serve to avoid impacts to all breeding birds, including special-status birds such as Cooper's hawk or yellow warbler.	Less Than Significant
The loss of populations of special-status plants, if present, resulting from construction activities.	<b>Mitigation Measure BR-3: Biological Resources</b>  To ensure that there are no impacts to special-status species, rare plant surveys of the affected area would be conducted prior to initiation of construction activities. If rare plants are identified, it would be determined if Project activities could be conducted to avoid impacts. If Project activities could not avoid impacts to rare plants, such impacts would be minimized or mitigated through plant relocation (if feasible) or topsoil and seed bank protection. Residual impacts would be less than significant.	Less Than Significant
Impacts to burrowing owl, a California and federal species of concern, from construction activities.	<b>Mitigation Measure BR-4: Biological Resources</b>  Preconstruction surveys for burrowing owl would be conducted according to California Department of Fish and Game requirements to determine whether any habitat in construction areas is occupied by burrowing owl. If burrowing owls are identified during the preconstruction surveys, impacts would be avoided by restricting construction activities within 150 feet during non-breeding season or 250 feet of active burrowing owl nest burrows during breeding season (February 1 through August 31). If construction cannot be restricted, passive relocation would occur. Residual impacts would be less than significant.	Less Than Significant



TABLE ES-1  
Summary of Project Impacts and Mitigation Measures

Potentially Significant Impact	Mitigation	Level of Significance After Mitigation
The loss of active bird nests or young regulated under the federal Migratory Bird Treaty Act and other state regulations, resulting from construction activities.	<p>Mitigation Measure BR-5: Biological Resources</p> <p>To minimize potential impacts to areas used as forage by migratory birds and raptors, the following measures would be implemented:</p> <ul style="list-style-type: none"> <li>• Infrastructure design including trail and lighting would be sited in previously disturbed areas, when feasible.</li> <li>• Safety lighting would be directional or pointed downward to reduce affects on wildlife.</li> <li>• Implement Mitigation Measure BR-2.</li> </ul>	Less Than Significant
<b>Geology and Soils</b>		
The temporary creation of areas of exposed soils could temporarily result in soil erosion or loss of topsoil.	<p>Mitigation Measure GS-1: Geology and Soils</p> <p>One or more of the following measures to control soil erosion or loss of topsoil would be implemented:</p> <ul style="list-style-type: none"> <li>• The area disturbed by clearing, grading, earth moving, or excavation operations would be as small as feasible to prevent excessive dust.</li> <li>• Pregrading/excavation activities would include watering the area to be graded or excavated before commencement of grading or excavation. Application of water would penetrate sufficiently to minimize fugitive dust during grading activities.</li> <li>• Trucks would be required to have their loads covered going offsite.</li> <li>• Graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved onsite roadways, would be treated to prevent fugitive dust. Treatment would include, but not be limited to, periodic watering and/or roll compaction as appropriate. Watering would be done at least twice daily.</li> <li>• Inactive graded and/or excavated areas would be monitored at least weekly for dust stabilization. Soil stabilization methods, such as water and roll-compaction, would be implemented periodically over portions of the construction site that are inactive for over 4 days.</li> <li>• During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), clearing, grading, earth-moving, and excavation operations would be curtailed to the degree necessary to prevent fugitive dust created by onsite activities and operations from being a nuisance or hazard to offsite properties.</li> </ul>	Less Than Significant

TABLE ES-1  
Summary of Project Impacts and Mitigation Measures

Potentially Significant Impact	Mitigation	Level of Significance After Mitigation
	<ul style="list-style-type: none"> <li>Adjacent streets and roads would be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.</li> </ul>	
<b>Hydrology and Water Quality</b>		
Changes in topography and the presence of excavated and/or unprotected soil could affect stormwater runoff.	<p><b>Mitigation Measure W-1: Hydrology and Water Quality</b></p> <p>Prior to the initiation of ground disturbing activity, the DPW (or their designee) would obtain Project approval from the State Water Resources Control Board (SWRCB) under the National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated with Construction Activity (General Permit). This includes submitting a Notice of Intent (NOI) to the SWRCB and developing and implementing a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would identify the potential sources of sediment and other pollutants that may affect the quality of stormwater discharge, and would specify Best Management Practices (BMPs) to prevent or minimize the introduction of sediment and pollutants into surface waters from the Project site. BMP methods of erosion and sediment control may include straw bales, silt fences, and other control techniques. Monitoring and maintenance requirements would be specified in the SWPPP.</p>	Less Than Significant
Construction activities occurring within the River may cause sediment to be washed into surface waters of the U.S. which could impact water quality.	<p><b>Mitigation Measure W-2: Hydrology and Water Quality</b></p> <p>Prior to the initiation of activities within the bed and bank of the River, the DPW (or their designee) would obtain Project approval from the Regional Water Quality Control Board (RWQCB) 401 Water Quality Certification; California Department of Fish and Game 1600 Streambed Alteration Agreement; and, United States Army Corps of Engineers (USACE) 404 Permit. These Project approvals would specify potential sources of sediment and other pollutants that may affect the quality of the River, and would specify BMPs to prevent or minimize the introduction of sediment and pollutants into surface waters of the River. BMP methods of erosion and sediment control may include straw bales, silt fences, and other control techniques. Monitoring and maintenance requirements would be specified in these Project approvals. Vehicle maintenance and fueling would be restricted from areas within 50 feet of the bank of the River. Following construction within the River, the bed of the River would be returned to existing grade.</p>	Less Than Significant
<b>Noise</b>		
Construction noise on normal activities of residents in the vicinity of the proposed Project.	<p><b>Mitigation Measure N-1: Noise</b></p> <p>To minimize the adverse effects of construction noise on normal activities of residents in the vicinity of the proposed Project, temporary noise barriers consisting of acoustical curtains would be used along the west side of work areas, as needed.</p>	Less Than Significant





# 1.0 Introduction

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The County of Los Angeles Department of Public Works (DPW) has proposed the Joint Dominguez Gap and DeForest Treatment Wetlands Project (Project). The proposed Project is located within the City of Long Beach, as shown in Figure 1, and is comprised of the Dominguez Gap Spreading Grounds and the Market Street Basin. The proposed Project would implement a multipurpose wetland development that would (1) provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation, and education; (2) be safe for passive public use; and (3) require minimal maintenance while retaining the existing flood control capacity.

## 1.1 Project History

The Dominguez Gap Spreading Grounds and the Market Street Basin are owned and operated by DPW for stormwater infiltration and detention. The Dominguez Gap Spreading Grounds consists of two basins that are divided into eastern and western segments by the Los Angeles River (River), and are referred to as the East and the West Basin. The Market Street Basin consists of two segments that are divided into northern and southern segments by Long Beach Boulevard and are referred to as northern segment and southern segment.

The Los Angeles River Master Plan (Los Angeles County, 1996), the Dominguez Gap Final Project Modification Report, Section 1135, Environmental Restoration (U.S Army Corps of Engineers [USACE], 1997), and the Long Beach Riverlink Connecting City to River (California State Polytechnic University, 2003) study, analyze, and propose ecological, aesthetic, recreational, and educational improvements along the Los Angeles River and at the Dominguez Gap Spreading Grounds and Market Street Basin. Additionally, the Dominguez Gap Wetlands/Recreation Study (2001) and the DeForest Park Nature Center Sixth Street Sites Wetland Feasibility Study (CH2M HILL, 2002), respectively, provide detailed analyses of existing conditions and alternative ecological and recreational restoration options and costs. The analyses in these feasibility studies provide the basis for implementation of the proposed Project.

## 1.2 Environmental Document Required

The California Environmental Quality Act (CEQA) requires every proposed Project in the State of California to be examined for potential effects on the environment. As the Lead Agency under CEQA, DPW has determined that the proposed Project has the potential to have a significant effect on the environment. As such, this Draft Environmental Impact Report (EIR) has been prepared to provide objective information to public decisionmakers and the general public regarding potential environmental effects of the proposed Project. Environmental impacts are measured against the baseline physical conditions (14 California Code of Regulations [CCR] § 15125[a]) and the No Action Alternative (14 CCR § 15126.6[d]).

## 1.3 Project Objectives

CEQA requires that an EIR include a statement of Project objectives. The objectives will help DPW evaluate the proposed Project and Project alternatives and will help decisionmakers select a preferred alternative.

The goals of the proposed Project are to provide treatment wetlands with riparian and wetland habitat, enhanced groundwater recharge, and passive recreational and educational opportunities to the general public. In order to achieve these goals, the following objectives should be accomplished:

- Provide a community asset that is a point of interest along the Los Angeles River and within the City of Long Beach
- Improve water quality for groundwater recharge and Los Angeles River discharge
- Result in no net loss of flood control capacity
- Result in no net loss of groundwater recharge
- Improve and expand habitat for wetland and riparian species
- Expand passive recreation opportunities for the City of Long Beach and other local communities
- Provide an environmental education resource for local schools and the general public

## 1.4 Environmental Review Process

DPW issued a CEQA Notice of Preparation (NOP) to the Governor's Office of Planning and Research (OPR) State Clearinghouse on January 21, 2005. In accordance with CEQA guidelines, a 30-day comment period (ending February 22, 2005) on the NOP (included in Appendix A) was established. During the 30-day comment period, DPW held a public meeting to present information about the proposed Project to interested parties, to respond to informal questions, and to take formal comments to be addressed during preparation of the Draft EIR. The public meeting was held at Houghton Park Community Center, in the City of Long Beach, on February 10, 2005; approximately 20 people attended the meeting. Appendix A includes a copy of comment forms that were completed at the meeting and written comment letters that were received during the comment period.

All comments received by DPW during the public comment period have been considered during preparation of this Draft EIR.

This Draft EIR has been released for a 45-day review to the public, including interested individuals, organizations, government representatives, and agencies. DPW provided notice of availability of the Draft EIR with a Notice of Completion sent to the California OPR State Clearinghouse. Following the 45-day public review period, DPW will prepare a Final EIR that will incorporate and respond to comments received during public review of the Draft EIR.



## Legend

 Approximate Project Boundary

## Figure 1

### Project Location Map

Joint Dominguez Gap and  
DeForest Treatment Wetlands Project





## 1.5 Intended Uses of this EIR

This Draft EIR will be used by various local, state, and federal agencies (including DPW) in their consideration of actions required on the proposed Project. Also, construction and operation of the proposed Project would require certain state and local permits. Table 1-1 identifies these agencies and the potential permit or approval required.

TABLE 1-1  
Permits of Approvals Anticipated to be Required

Agency	Permit or Approval	Activity Requiring Permit or Approval
<b>State</b>		
Regional Water Quality Control Board, Region 4	Clean Water Act Section 402 National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated with Construction Activity (General Permit), and Storm Water Pollution Prevention Plan (SWPPP)	Disturbance of land equal or greater than 1 acre
Regional Water Quality Control Board, Region 4	Clean Water Act Section 401 Water Quality Certification	Placement of diversion structure in Los Angeles River
California Department of Fish and Game	Streambed Alteration Agreement	Activities within bed and bank of Los Angeles River
<b>Federal</b>		
United States Army Corps of Engineers	Section 404 Permit	Placement of diversion structure in Los Angeles River

## 1.6 Draft EIR Content and Organization

This Draft EIR comprises seven chapters, organized as described below.

Chapter 2 provides a description of the proposed Project, including the general Project location and construction and operation activities to be conducted for the proposed Project.

Chapter 3 describes individual resource areas potentially impacted by the proposed Project, including regional and site-specific environmental setting, Project impacts, and proposed mitigation measures. Resource areas addressed in this Draft EIR include Aesthetics, Air Quality, Biological Resources, Geology and Soils, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Public Services, Recreation, and Transportation and Traffic.

Chapter 4 addresses Project Alternatives, including the No Project Alternative and alternatives considered but eliminated.

Chapter 5 consists of other topics required by CEQA to be addressed in the Draft EIR, including an analysis of cumulative impacts that may occur as a result of construction and operation of the proposed Project in conjunction with other area projects and a discussion of growth-inducing impacts and significant irreversible environmental effects.

Chapter 6 provides a list of document preparers, and Chapter 7 includes references used in preparation of the Draft EIR.



## 2.0 Project Description

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### 2.1 Introduction

The proposed Project was identified after review and consideration of the alternative ecological and recreational restoration options evaluated in prior feasibility studies, and because it best meets the Project objectives identified in Chapter 1. This chapter provides a description of the proposed Project that is used to assess potential environmental impacts in Chapters 3 through 5 of the Draft EIR.

### 2.2 Existing Facilities

The proposed Project is located within the City of Long Beach and is comprised of the Dominguez Gap Spreading Grounds and the Market Street Basin. Provided below is a description of the facilities that currently exist at the Dominguez Gap Spreading Grounds and the Market Street Basin.

#### 2.2.1 Dominguez Gap Spreading Grounds

The Dominguez Gap Spreading Grounds were constructed in 1958 and are currently owned and operated by the DPW for stormwater infiltration and detention. It consists of two basins that are divided into eastern and western segments by the River, and are referred to as the East Basin and the West Basin.

The West Basin is approximately 15 acres, 350 feet wide at its maximum dimension and 2,000 feet long. The banks of the West Basin are sparsely vegetated with non-native invasive weedy species and a few trees. The East Basin is approximately 34 acres, 5,000 feet long, and 280 feet wide. Several storm drains, draining areas north and east of the East Basin, terminate here and deliver dry and wet weather flows to the basin. The East Basin is further segmented by the Union Pacific Railroad. Low-flow and stormwater runoff from the River is currently diverted to the East Basin for groundwater recharge purposes in both the East and West Basin. Overflow from the East Basin is either pumped to the River by the Dominguez Pump Station or retained and ultimately diverted to the West Basin through a 42-inch siphon that passes under the concrete-lined Los Angeles River.

#### 2.2.2 Market Street Basin

The Market Street Basin is currently owned and operated by DPW as a flood control detention basin. This 38-acre site borders the River and is 300 feet wide by 6,600 feet long. It is divided into northern and southern segments by Long Beach Boulevard, and these are referred to as northern segment and southern segment.

The northern segment runs from DeForest Park on the north to Long Beach Boulevard on the south. DPW has permitted this area to the City of Long Beach since 1975 for the development and maintenance of a nature trail. It has been planted with a variety of native and non-native trees by community volunteers. Three storm drains (Harding Street Storm Drain, local storm drain at Cedar Street, and the storm drain from DeForest Park [DPW Projects 5108 and 129]) that enter the northern segment support a well-established willow

woodland and emergent marsh. The southern segment extends from Long Beach Boulevard south to Del Amo Boulevard, which is adjacent to the northern end of the Dominguez Gap Spreading Grounds. The Market Street Pump Station is located at roughly the center of this segment and the site drains to the pump station. The southern segment is sparsely vegetated with non-native invasive species and actively maintained by DPW as an earthen-trapezoidal basin. The 15-foot by 11-foot Market Street Drain delivers stormwater to the site where it is held until it reaches an elevation of 28 feet above mean sea level (msl). The Market Street Pump Station then pumps water to the River.

## 2.3 Proposed Project

The proposed Project would implement a multipurpose wetland development that would (1) provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation, and education; (2) be safe for passive public use; and (3) require minimal maintenance while retaining the existing flood control capacity.

The overall site acreage is approximately 87 acres, including approximately 11.3 acres of usable recreational space. Of this area, 6.8 existing acres will be unaffected by the Project, 3.7 acres will be upgraded, and 0.8 acres will be added. This results in a net total of 4.5 acres of new and upgraded usable recreational space. These totals include the existing Los Angeles River Trail (LARIO Trail).

### 2.3.1 Project Location

The proposed Project is located within the City of Long Beach, California, as shown in Figure 1, and is adjacent to the River. Most of the proposed Project site is east of the River and is bound by DeForest Park at the north and the Metro Blue Line at the south. The southern-most segment is west of the River and is bound by the Metro Blue Line at the north and extends approximately 2,000 feet south towards Interstate 405.

### 2.3.2 Project Elements

The proposed Project is comprised of improvements at the existing Dominguez Gap Spreading Grounds and the Market Street Basin. The proposed Project elements include the following:

- Landscape and planting of native plant communities
- Construction and operation of an extensive treatment wetland with riparian and wetland habitat in the East Basin of Dominguez Gap Spreading Grounds
- Construction and maintenance of riparian habitat along the edges of the West Basin of Dominguez Gap Spreading Grounds
- Attainment of enhanced groundwater recharge in the West Basin that is equal or greater than the current recharge of the East and West Basins combined
- Construction and maintenance of wetland and riparian habitat along the northern and southern segments of the Market Street Basin
- Placement of passive recreational features such as trails, bird blinds, shade structures, and interpretive signage at both sites

- Construction and operation of trash removal devices at major storm drain outlets to all basins
- Construction and operation of River water diversion structure to divert water to the Market Street Basin
- Utilization of existing diversion structure from River to East Basin of Dominguez Gap Spreading Grounds

These proposed Project features are described in detail in the following sections.

### 2.3.2.1 Landscape, Planting, and Habitats

The landscape and planting design incorporates native plant communities consistent with historical habitat conditions within the lower Los Angeles Basin. Types of seasonally inundated wetlands, open pools, and willow woodland habitats that historically occurred within the Los Angeles River floodplain would be targeted for creation. This section provides a brief description of habitats that would be developed under the proposed Project, plants that would comprise the community, and typical associated wildlife species. A more complete description of historic plant communities and associated wildlife species in the Los Angeles Basin is presented in the DeForest Nature Center and Sixth Street Sites Wetland Feasibility Study, (CH2M HILL, 2002). The habitats described here will be developed in all three basins, in varying proportions.

#### Habitats

##### *Native Scrub*

This habitat would be planted with California sagebrush, California buckeye, deerweed, coyote bush, and other shrub and herbaceous species. This habitat would be established predominantly on the upper slopes of the East, West, and Market Street Basins. It is comparable with the Native Scrub community described by Holland (1986). Wildlife species typically associated with this habitat include coastal California gnatcatcher, California towhee, California quail, Bewick's wren, opossum, mule deer, and dusky-footed woodrat. Some of these species are generalists, and presently occur on the site. Others have the potential to colonize after this habitat is established.

##### *Riparian Woodland*

This habitat would be planted with mulefat, coyote bush, numerous species of willows, California sycamore, velvet ash, black cottonwood, and other herbaceous and woody species. It is comparable to the Southern Cottonwood-Willow Riparian Forest, Southern Willow Scrub, Mulefat Scrub, and Sycamore Alluvial Riparian Woodland community types described by Holland (1986).

This habitat is important for valued species of wildlife including yellow warbler, least Bell's vireo, Cooper's hawk, red-shouldered hawk, yellow-breasted chat, downy woodpecker, northern oriole, raccoon, two-striped garter snake, California red-legged frog, and western toad. Some riparian species presently occur in degraded habitat on the site. With creation of additional riparian habitat and restoration of existing habitat, a number of additional species have the potential to colonize. Limiting factors will be the total area and continuity of riparian habitat created, the presence of exotic species (bullfrogs, cowbirds, and starlings) that negatively impact native species, and the proximity of intact riparian habitat from which species can colonize.

### *Transitional Marsh*

This habitat would be planted with herbaceous wetland species including species of rush and sedge, curly dock, and arrowweed. Open mudflat areas may also develop in transitional marsh areas along the shores of permanent water. This habitat is comparable in part to Coastal and Valley Freshwater Marsh from Holland (1986).

Species of wildlife utilizing this habitat include marsh and riparian species such as mallard, green heron, American coot, and red-wing blackbird. Shorebirds including black-necked stilt, western sandpiper, and others may forage in open mudflat areas. Colonization of this habitat would occur in conjunction with colonization of adjacent riparian and wetland habitats.

### *Emergent Marsh*

This habitat would be planted with multiple species of bulrush. It would be interspersed with open water. It is comparable in part to Coastal and Valley Freshwater Marsh from Holland (1986).

This habitat is suitable for a number of valued wetland wildlife species, including common yellowthroat, least bittern, yellow-headed blackbird, tricolored blackbird, and marsh wren. Limiting factors for colonization of this habitat include the total area of wetland habitat created, the proportion of dense marsh to open water, and the proximity of other marsh areas for species colonization.

### *Open Water*

This habitat would be unplanted, and would have water depths that would not support the establishment of emergent vegetation. Some submerged vegetation may establish. This habitat would be interspersed with emergent marsh. This is an important habitat for many species of foraging and roosting waterfowl, such as green-winged teal and ruddy duck. When interspersed with Emergent Marsh, it supports a number of breeding species, including pied-billed grebe and common moorhen. Open water and wetland areas also provide important forage habitat for a number of species of bats, including species of the genus *Myotis*.

### **Exotic Plant Removal**

The removal and control of exotic species is an important component of establishing successful native habitat at the proposed Project. There are a variety of non-native plant species that are well established throughout the proposed Project, including extensive non-native woodland in the Market Street Basin along the DeForest Park Nature Center. Non-native vegetation includes castor bean, mustard, Brazilian pepper tree, gum tree, and horseweed. The proposed Project would include clearing and grubbing existing non-native vegetation, while protecting existing non-native vegetation where it is feasible to do so (i.e., in areas where the existing grade will not be changed). A “grow and kill” cycle would be implemented prior to planting native habitats to reduce potential weed problems after habitats are planted. To accomplish this, the site would be irrigated until seeds germinate, and germinants sprayed with herbicide and subsequently removed.

Ongoing maintenance would include the management and removal of non-native plant species to enhance native species growth.

### 2.3.2.2 East Basin of Dominguez Gap Spreading Grounds Treatment Wetland and Riparian Wetland Habitat

The East Basin treatment wetland has been designed to create diverse habitat within the basins, including extensive Emergent Marsh and open water along the length of the basin using inflows from the existing river diversion, and the stormwater input from existing storm drains, a perimeter of Riparian Woodland, and upland habitats dominated by the Native Scrub community. Some limited areas of Transitional Marsh would be established to increase visibility into the wetland and provide habitat for native species. Some vegetated islands for protective wildlife nesting and resting habitat would also be included. The marsh design would improve river and stormwater quality and would create a riparian ecosystem similar to an open-side channel fringed with vegetation. Acreage of vegetation communities proposed for the Project in the Dominguez Gap basins are provided in Table 2-1. Modifications to the East Basin would include the following:

- Regrading to create marsh habitat in the north reach, with alternating open water and Emergent Marsh for water quality improvement; the southern portion would include development of some shallow inundated islands and marshes, along with meandering open water and Emergent Marsh habitat
- Operating the system to achieve a normal water elevation of 17.5 feet
- Removal of non-native plants and extensive revegetation with native species corresponding to the target plant communities

TABLE 2-1

Proposed Vegetation Communities in the East and West Dominguez Gap Basin and Market Street Basin and Corresponding Acreage

*All units are in acres unless otherwise indicated.*

Basin	Planting Zone					Total
	Open Water	Emergent Marsh	Transitional Marsh	Riparian Woodland	Scrub/Native Landscape	
	Average Elevation Relative to Water Surface	2 feet or more below water surface	2 feet or less below water surface	Within 1 foot above or below water surface	6 feet or less above water surface	Up to 2 feet or more above water surface
West	8.22	0.57	0.60	1.25	2.78	13.42
East	2.04	4.89	2.20	4.16	10.92	24.21
Market Street	4.92	2.36	0.09	3.57	25.14	36.08
<b>Total</b>	<b>15.18</b>	<b>7.82</b>	<b>2.89</b>	<b>8.98</b>	<b>38.84</b>	<b>73.71</b>

Figures 2 through 4 provide the proposed plan of the East Basin, showing the existing and designed grade elevations and proposed plant communities. Water would be introduced to the East Basin through the existing Los Angeles River diversion near the north end of the East Basin, and would be augmented by low-flow and stormwater input from existing storm drains. Water would flow south through the basin through treatment wetland cells, around and through a peninsula and island linked by deep and transitional marshes. Water would be allowed to flow from the East Basin to the West Basin through the existing 42-inch siphon, but no outfall would be constructed to allow water to return to the River. Water in excess of that which can be infiltrated in the West Basin would be shunted via pipeline to the existing Dominguez Gap Pump Station for discharge to the Los Angeles River.

### 2.3.2.3 West Basin of Dominguez Gap Spreading Grounds Riparian Habitat

The proposed Project would maintain the West Basin as an infiltration basin similar to its current form and function. Riparian Woodland habitat would be established on the banks of the West Basin while avoiding impacts to infiltration operations. Higher on the bank, Native Scrub habitat would be established, as well as within openings in the riparian plantings in a few locations which would provide greater visibility into the basin, including a view in for passengers on the Blue Line (commuter railway). The open water habitat within the infiltration basin would provide forage and loafing habitat for waterfowl.

Vegetation modifications would include removing non-native plants, and re-vegetation with native species. Riparian Woodland and Native Scrub communities would be established down to the water line. No planting would occur below the water line. Acreage of vegetation communities proposed for the Project in the Dominguez Gap basins are provided in Table 2-1, and Figures 5 and 6 provide the proposed plan of the West Basin, showing the existing and designed grade elevations and proposed plant communities.

### 2.3.2.4 West Basin Enhanced Groundwater Recharge

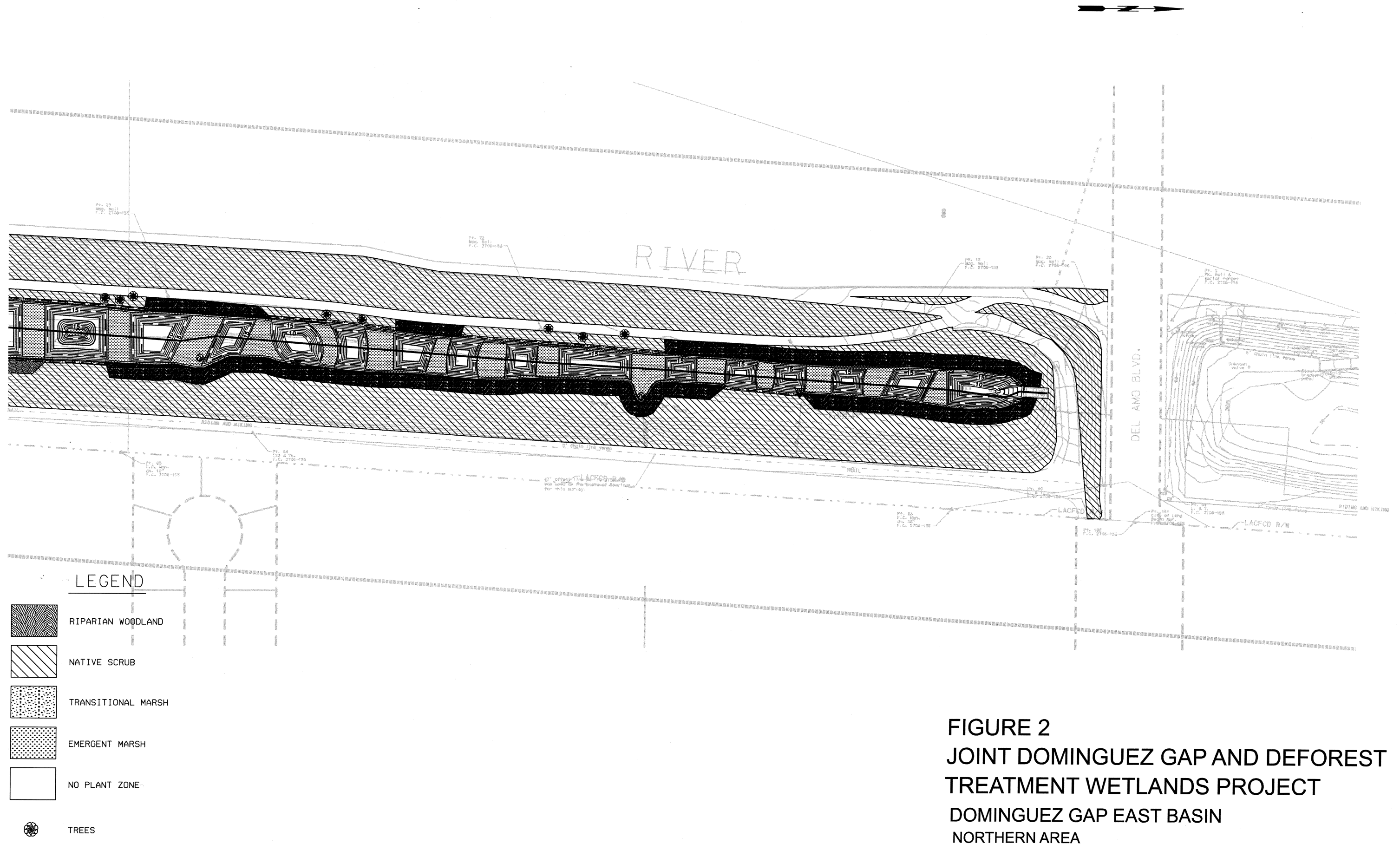
Groundwater recharge in the West Basin would be enhanced by spreading higher quality water and by performing additional operation and maintenance activities. Under typical basin operations, fine-grained sediment and algae accumulate on the basin floor. This material forms a low-permeability layer that reduces the recharge rate of the basin. Under future conditions, the influent to the West Basin would be treated in the East Basin Treatment Wetland, which would reduce the turbidity, suspended solids, and nutrient concentrations of the influent relative to existing conditions. Thus, solids loading and the potential for algae blooms to occur in the West Basin would be reduced. Currently, DPW scarifies the surface of the West Basin on an annual basis. During this activity, the basin floor is scraped to remove fine-grained material that has accumulated and is ripped to increase its permeability. Under future conditions, this activity would be performed on a semiannual basis. The combined effects of spreading higher quality water and more frequent basin maintenance should enhance the average recharge rate of the West Basin.

### 2.3.2.5 Market Street Basin Wetland and Riparian Habitat

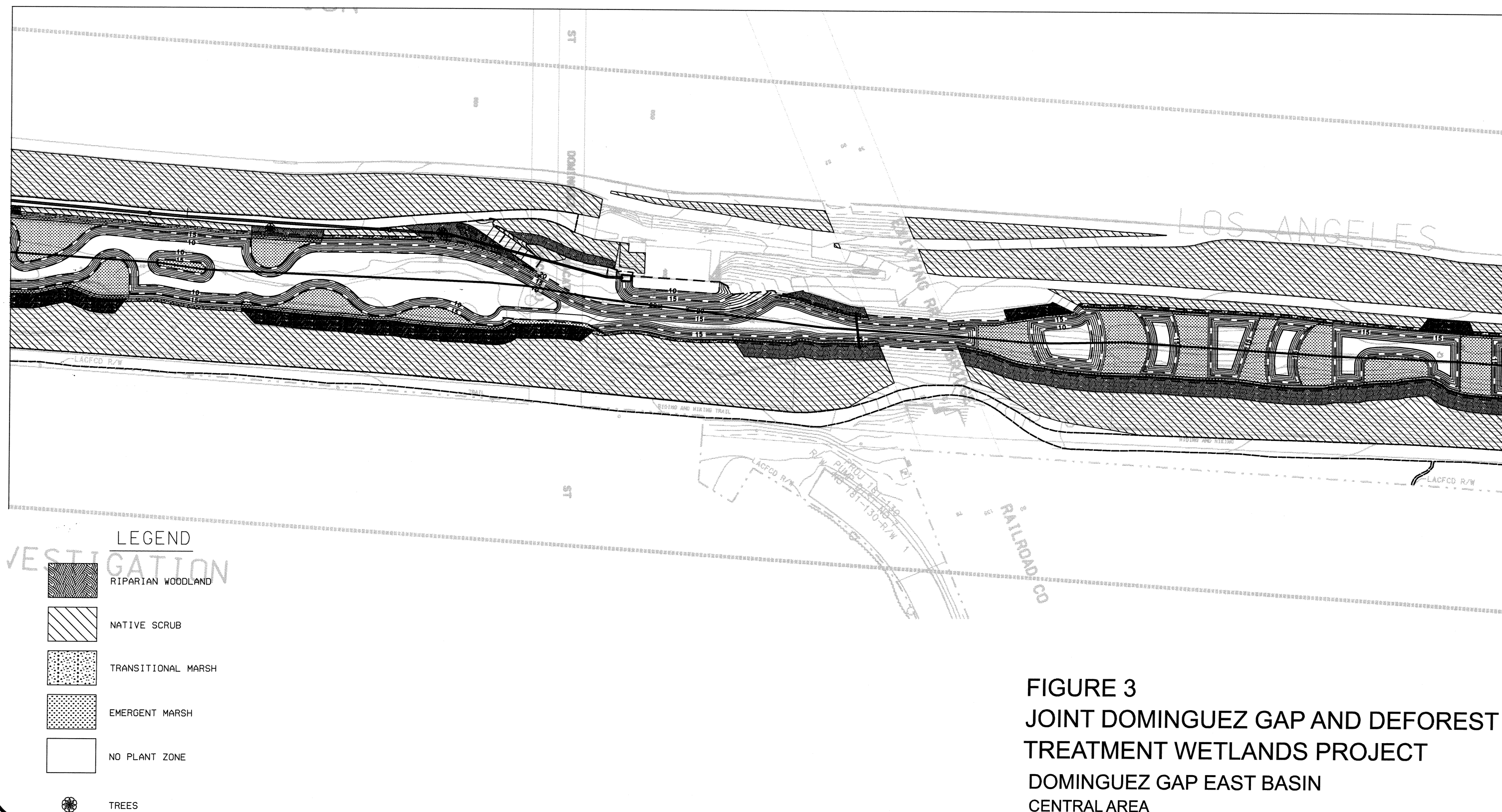
Within the Market Street Basin, non-native trees along the existing DeForest Park Nature Center would be removed and replaced with native Riparian Woodland. The wetland area that currently exists in the north part of the basin would be enhanced and augmented with water diverted from the Los Angeles River. The augmentation would increase wetland habitat. A series of Emergent Wetland areas would be established in a mosaic with open water along the northern basin to enhance water quality treatment. Some native Riparian Woodland is already present along the existing wetland; this would be enhanced and expanded. Some areas of Transitional Marsh would be developed to increase visibility into the wetland. Higher areas would be established with Native Scrub habitat. In general, an open woodland canopy would be developed, with dense vegetation restricted to pockets.

The southern portion of the basin (south to the Market Street Pump Station) is currently dry most of the year and does not support wetland vegetation. With diversion from the Los Angeles River, this area would be hydrated and graded to support wetland vegetation, including Emergent Marsh, Transitional Marsh, and open water. Perimeter areas would be established in Riparian Woodland. Upland areas would be planted with Native Scrub.











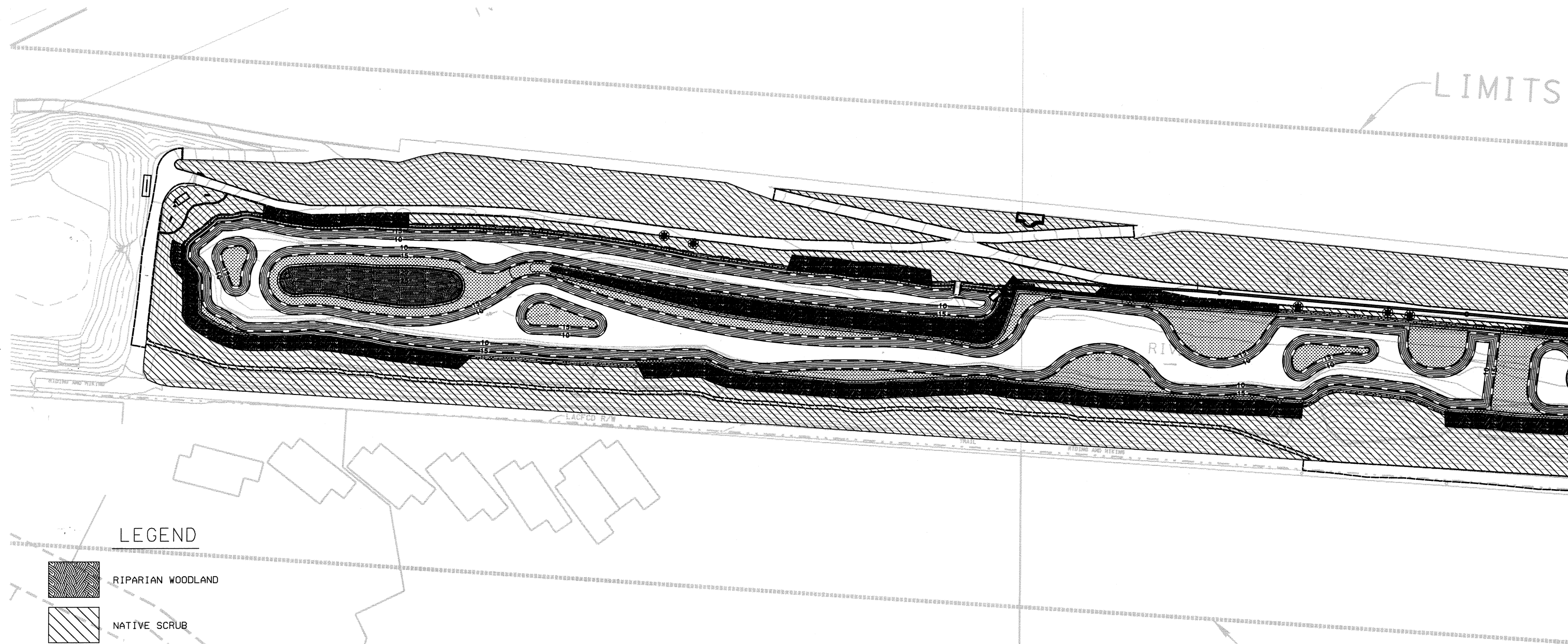
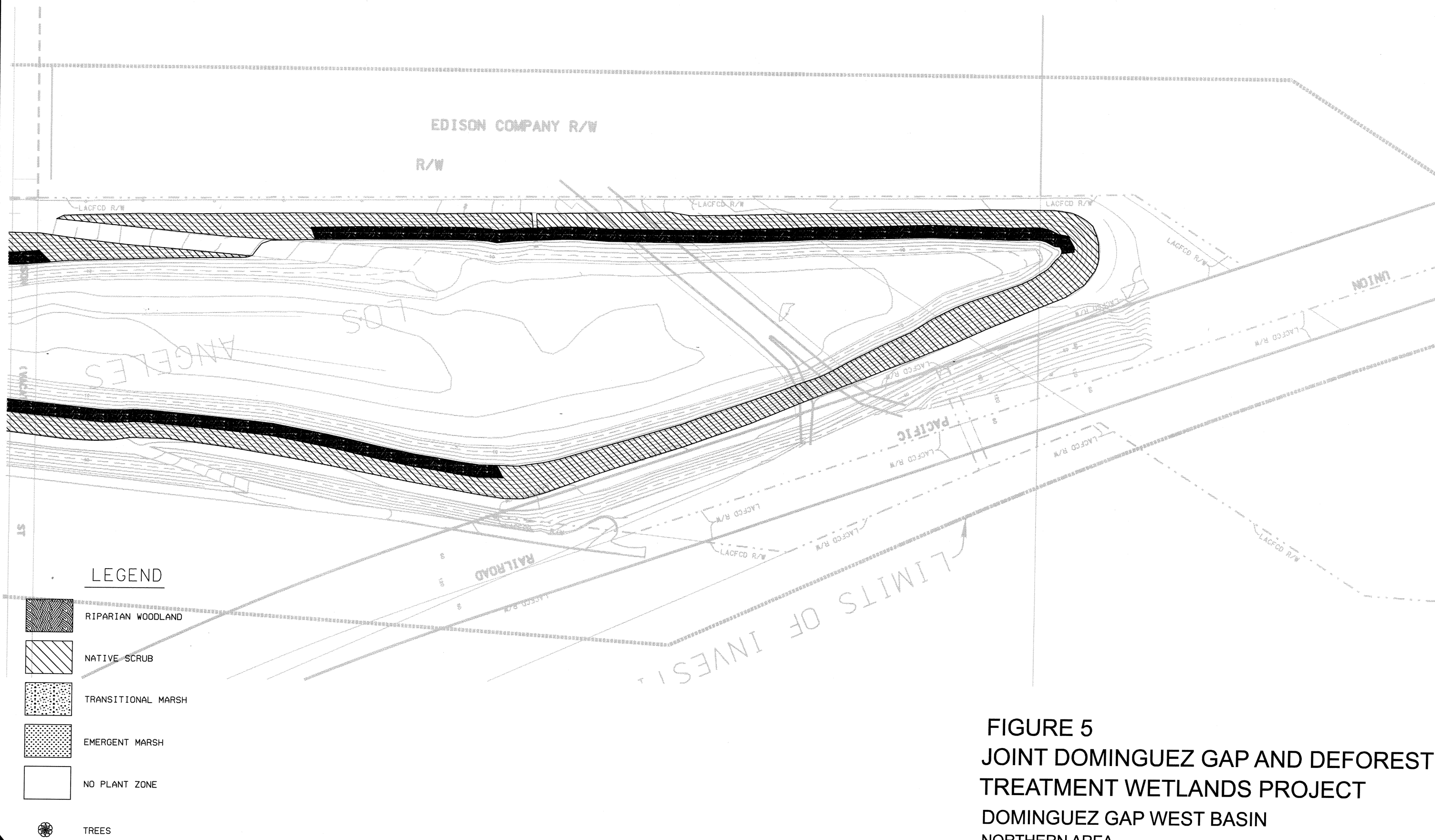


FIGURE 4  
JOINT DOMINGUEZ GAP AND DEFOREST  
TREATMENT WETLANDS PROJECT  
DOMINGUEZ GAP EAST BASIN  
SOUTHERN AREA





**FIGURE 5**  
**JOINT DOMINGUEZ GAP AND DEFOREST**  
**TREATMENT WETLANDS PROJECT**  
**DOMINGUEZ GAP WEST BASIN**  
**NORTHERN AREA**





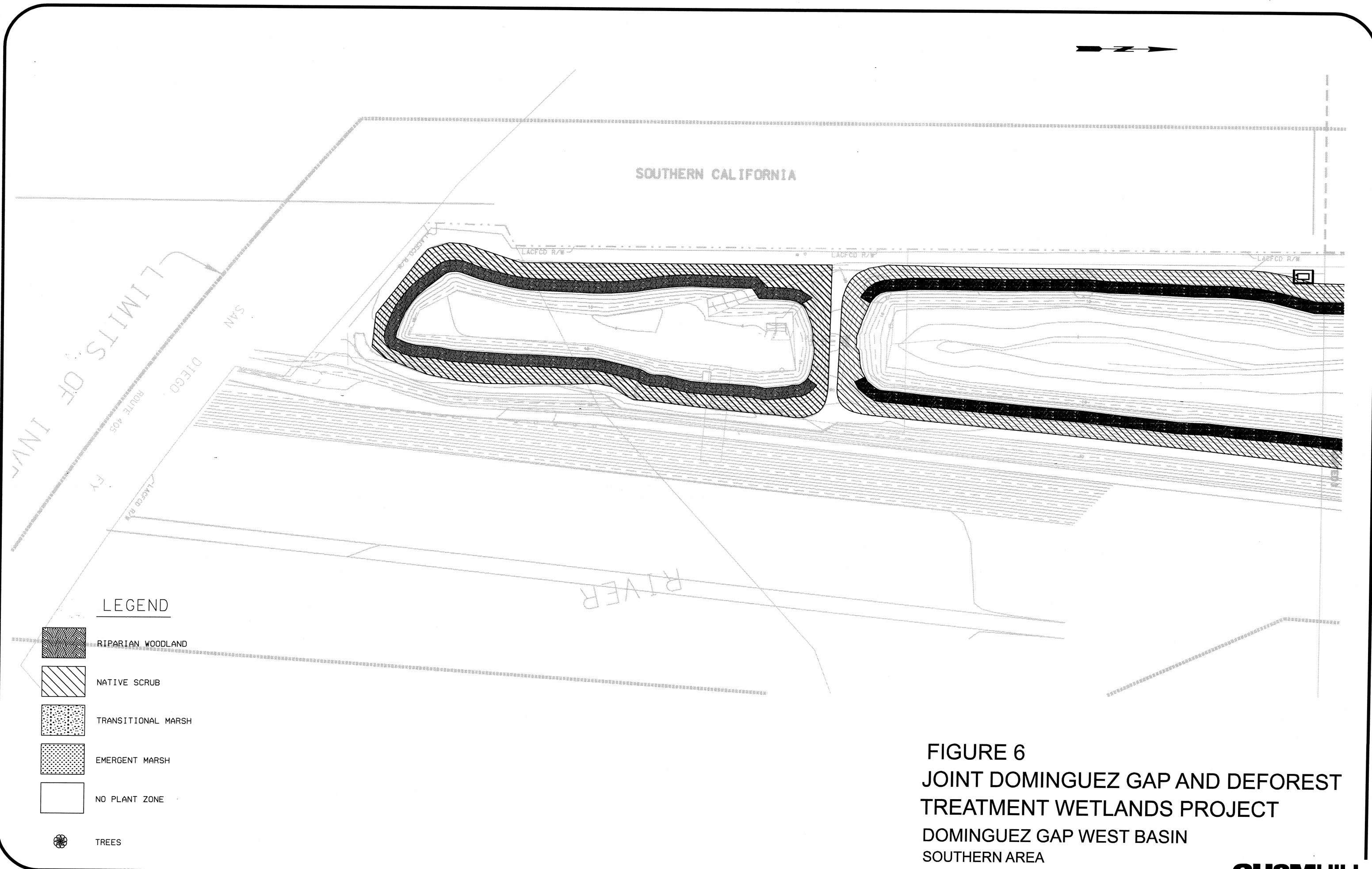


FIGURE 6  
 JOINT DOMINGUEZ GAP AND DEFOREST  
 TREATMENT WETLANDS PROJECT  
 DOMINGUEZ GAP WEST BASIN  
 SOUTHERN AREA



Augmentation water from the Los Angeles River would not flow south of the Market Street Pump Station owing to the uphill grade at that location. As such, this area would not be developed into wetland. However, some catchment grading may be conducted to store seasonal storm flows to support wetland communities, such as Riparian Woodland and Transitional Marsh. These types of drying pools would be characteristic of historic habitat conditions after flood events in the lower Los Angeles Basin, where river overflows would typically inundate large areas, leaving drying pools. It is anticipated that native riparian vegetation and wetland vegetation would be established along the perimeter of these pools, and the pools will benefit many species of wildlife.

Acreage of vegetation communities proposed for the Project in the Market Street Basin is provided in Table 2-1, and Figures 7 through 11 provide the proposed plan of the Market Street Basin, showing the existing and designed grade elevations and proposed plant communities.

### 2.3.2.6 Passive Recreation

Implementation of the habitat and water management plan would create a physical environment with attractive scenic and interpretive opportunities for public use. The Los Angeles River Master Plan (Los Angeles County, 1996), anticipating this increased attractiveness, provided a general framework for how the sites might fit into the overall regional recreational and public educational scenarios. Given this context for public recreational use, and the feedback from the discussion at the public and interagency meetings, site enhancements for public use and recreation have been incorporated.

The public use and recreational element of the proposed Project would emphasize continued use in much the same way as the basins are used now, with individuals and small groups visiting informally. Users would view the proposed Project via scenic side trips along the LARIO Trail or by coming in on foot, bike, or horseback from the surrounding neighborhoods. Site amenities would be constructed to the minimum design standards outlined in the Los Angeles River Master Plan Landscaping Guidelines and Plant Palettes (Landscaping Guidelines) (Los Angeles and San Gabriel Rivers Watershed Council, 2004). No routine staffing would be required.

Approximately 3.7 acres of existing foot trails would be upgraded and approximately 0.8 acres of new foot trails would be created, as described below.

#### East Basin

In the East Basin, the foot trails would be resurfaced with decomposed granite, the bike trails and maintenance access would be repaved and two bike racks installed for temporary storage. The equestrian trails would remain a soft natural finish, with a hitching rail installed along the trail. Interpretive signage addressing water quality and bird life would be added alongside the LARIO Trail and East Levee equestrian trails. A shade shelter and an observation tower would be constructed with access directly from the existing LARIO Trail rest stop at the south end of the East Basin. Four steel benches in picturesque locations would be installed as rest stops.

The existing primary entrance gate at the northeast corner of the East Basin would be reconstructed according to styles provided in the Landscaping Guidelines. Gates would be installed in conjunction with secondary access points every 60 feet in a new fence along the east side of the site. As well, two trash receptacles would be installed and maintained in the East Basin.

### **West Basin**

In the West Basin, a bird blind, shade structure, and trash receptacle would be constructed next to the West Basin trail, which is envisioned as being used primarily by birdwatchers. Trails would be enhanced with decomposed granite. Three steel benches would be installed in various locations as rest stops.

### **Market Street Basin**

In the Market Street Basin, onsite trails would be on-grade and enhanced with low-key interpretive and orientation signage. Near wetland resources in particular, the on-grade trails would be lined with low barriers to subtly discourage unsupervised wandering that could damage habitats. Trails would be enhanced with decomposed granite. Benches would be provided at intervals for rest or quiet contemplation.

### **Access and Parking**

The proposed Project is currently accessible from Del Amo Boulevard (East Basin), Carson Street (West Basin), the existing DeForest Park (Market Street Basin), Long Beach Boulevard and near Sutter School (Market Street Basin), and the LARIO Trail (East Basin and Market Street Basin). Limited parking is available on side streets, along DeForest Avenue along DeForest Park, and at the existing DeForest Park parking lot a few hundred feet to the north. Parking improvements are not included in the proposed Project. Several bike racks would be placed throughout the proposed Project area.

### **Public Safety and Site Security**

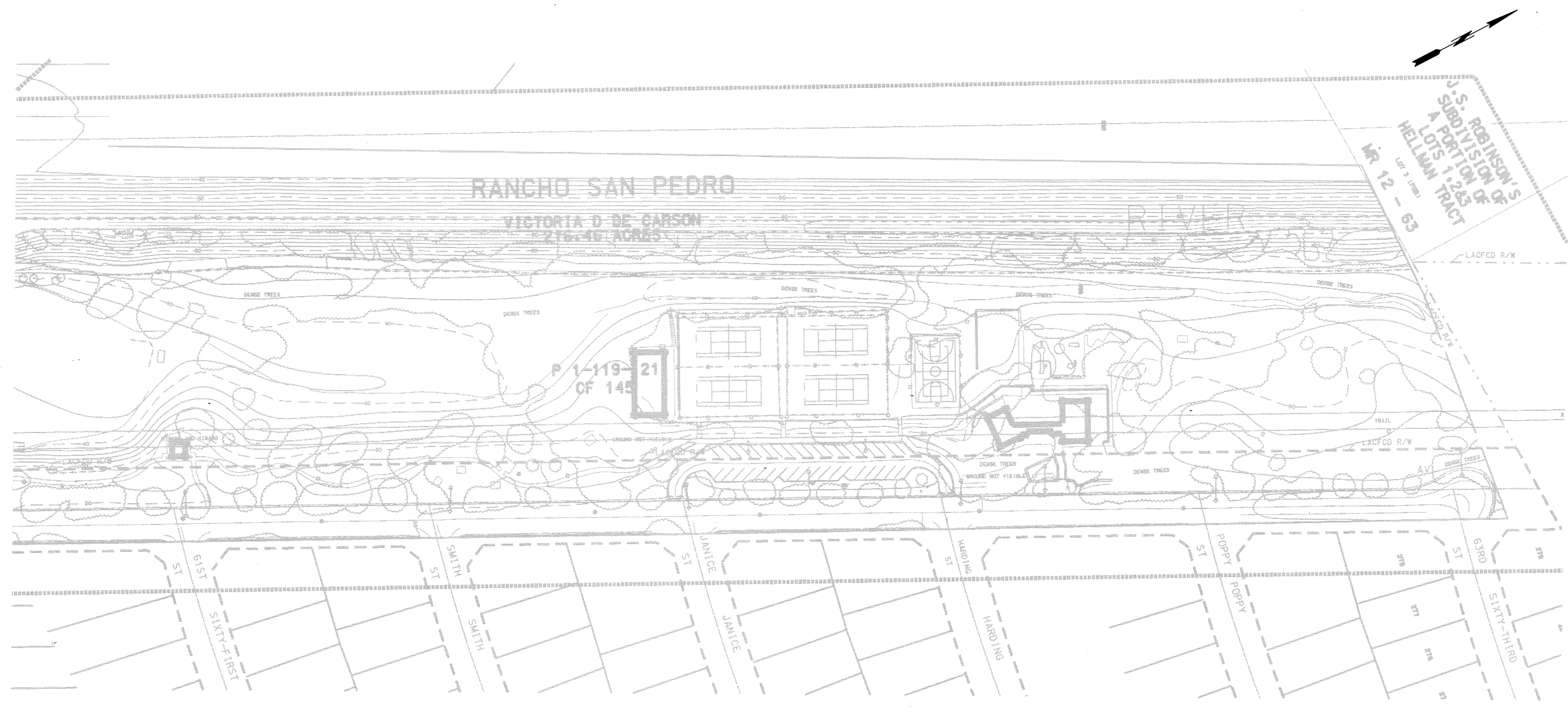
Various concerns related to safety and security have been anticipated regarding the increased public use of the proposed Project. Vandalism, privacy, noise, physical hazards, and visual impacts were taken into account as factors influencing the siting of proposed facilities and activities.

The relatively low use levels and lack of supervision would create general isolation. Regulations and hours for use would be posted at all entry points, which would be equipped with lockable gates. Site furnishings would be constructed from concrete or metal materials, to make them more resistant to vandalism and easier to clean in case of graffiti. Trees and vines or other screening vegetation would be planted along the eastern edge of the Project to help address concerns for privacy, noise, and visual impacts on neighboring land uses.

#### **2.3.2.7 Trash Removal Devices at Storm Drain Outlets**

Trash removal devices would be installed at the following storm drain outlets to the Dominguez Gap Spreading Grounds:

- 21" diameter inlet from the River.
- Project 130 storm drain, three 12-foot by 8.75-foot box outlets

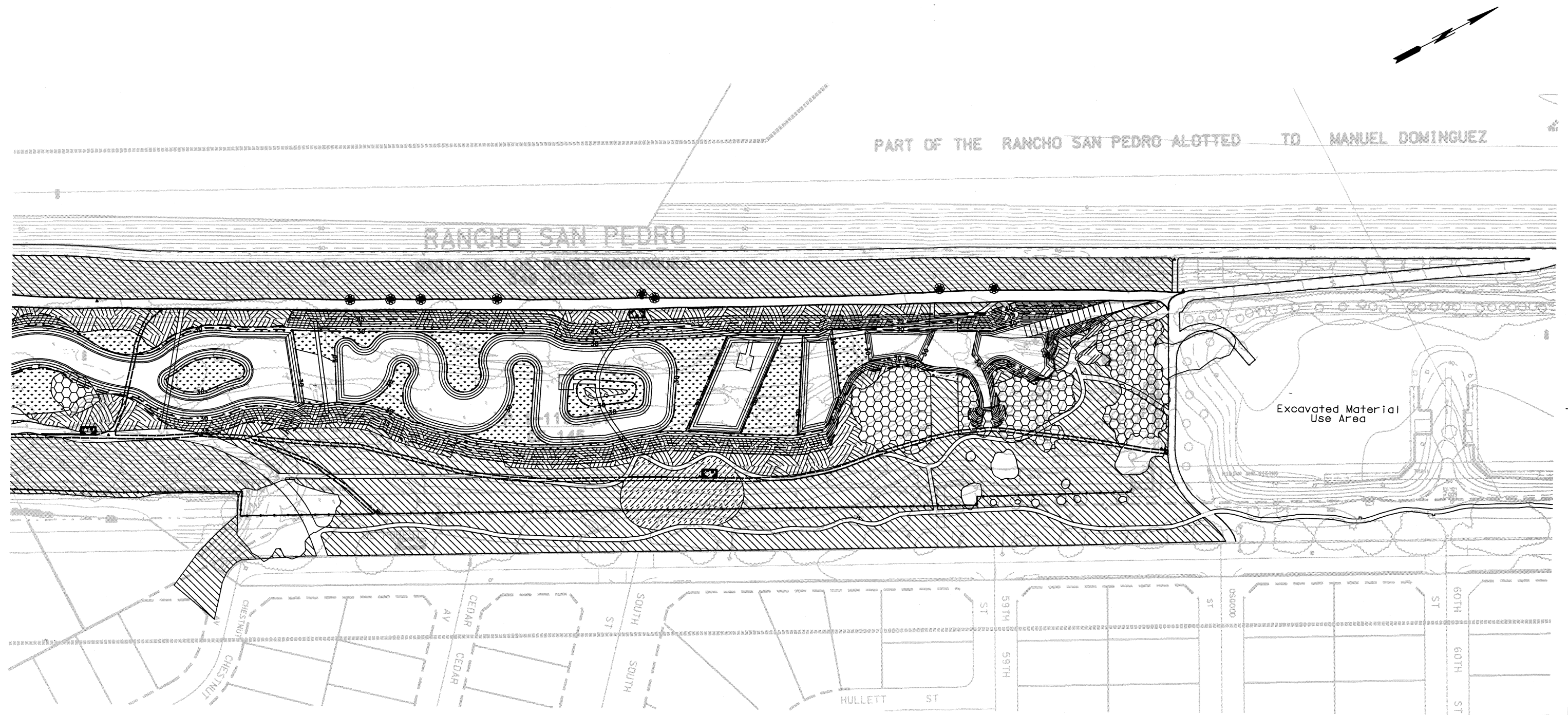


**LEGEND**

	Existing Cottonwoods		Existing Willows		Riparian Woodland		No Plant Zone
	Existing Natives		Native Scrub		Emergent Marsh		Proposed Trees
	Existing Sycamores		Proposed Grove		Transitional Marsh		

**FIGURE 7**  
**JOINT DOMINGUEZ GAP AND DEFOREST**  
**TREATMENT WETLANDS PROJECT**  
**DEFOREST MARKET STREET BASIN**  
**NORTHERN AREA**





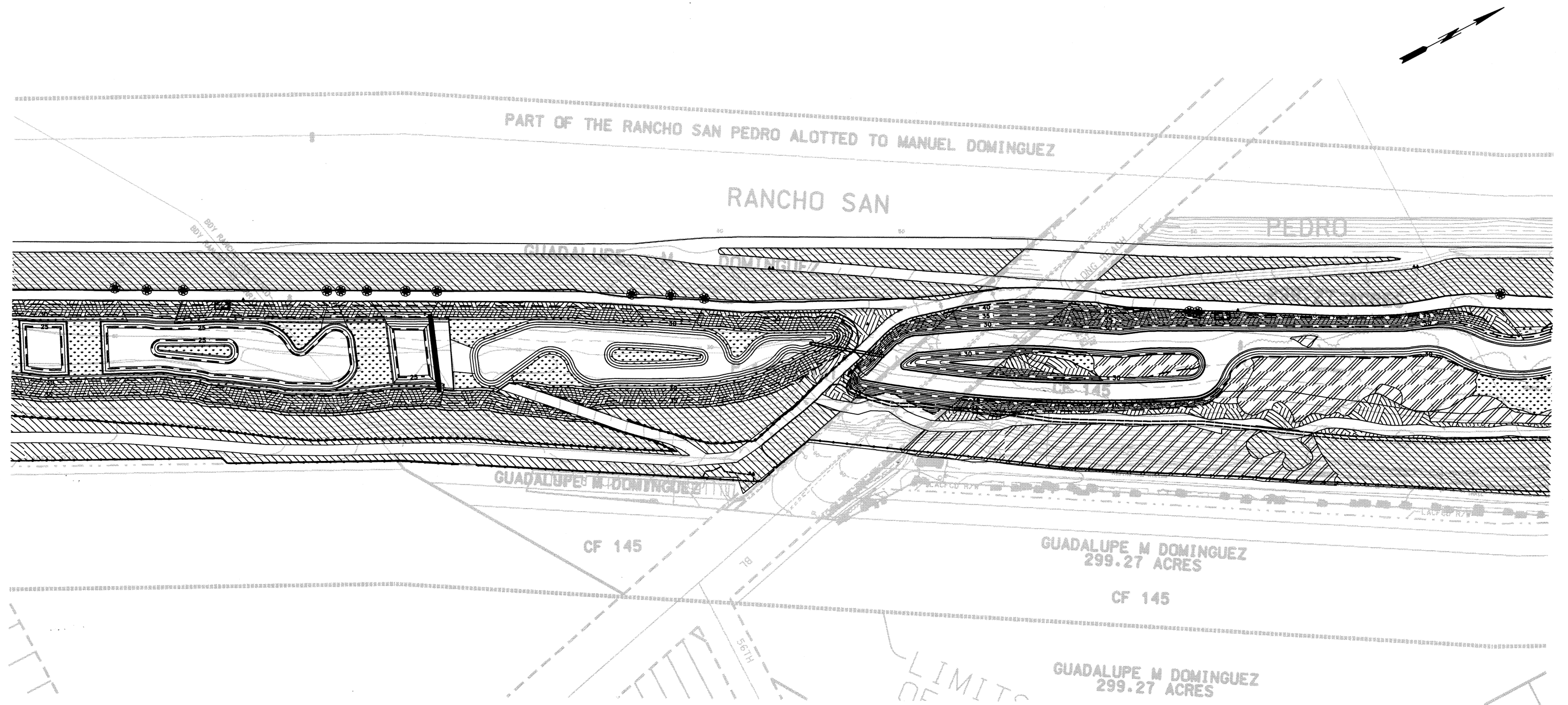
**LEGEND**

	Existing Cottonwoods		Existing Willows		Riparian Woodland		No Plant Zone
	Existing Natives		Native Scrub		Emergent Marsh		Proposed Trees
	Existing Sycamores		Proposed Grove		Transitional Marsh		

**FIGURE 8**  
**JOINT DOMINGUEZ GAP AND DEFOREST**  
**TREATMENT WETLANDS PROJECT**  
**DEFOREST MARKET STREET BASIN**  
**NORTH CENTRAL AREA**





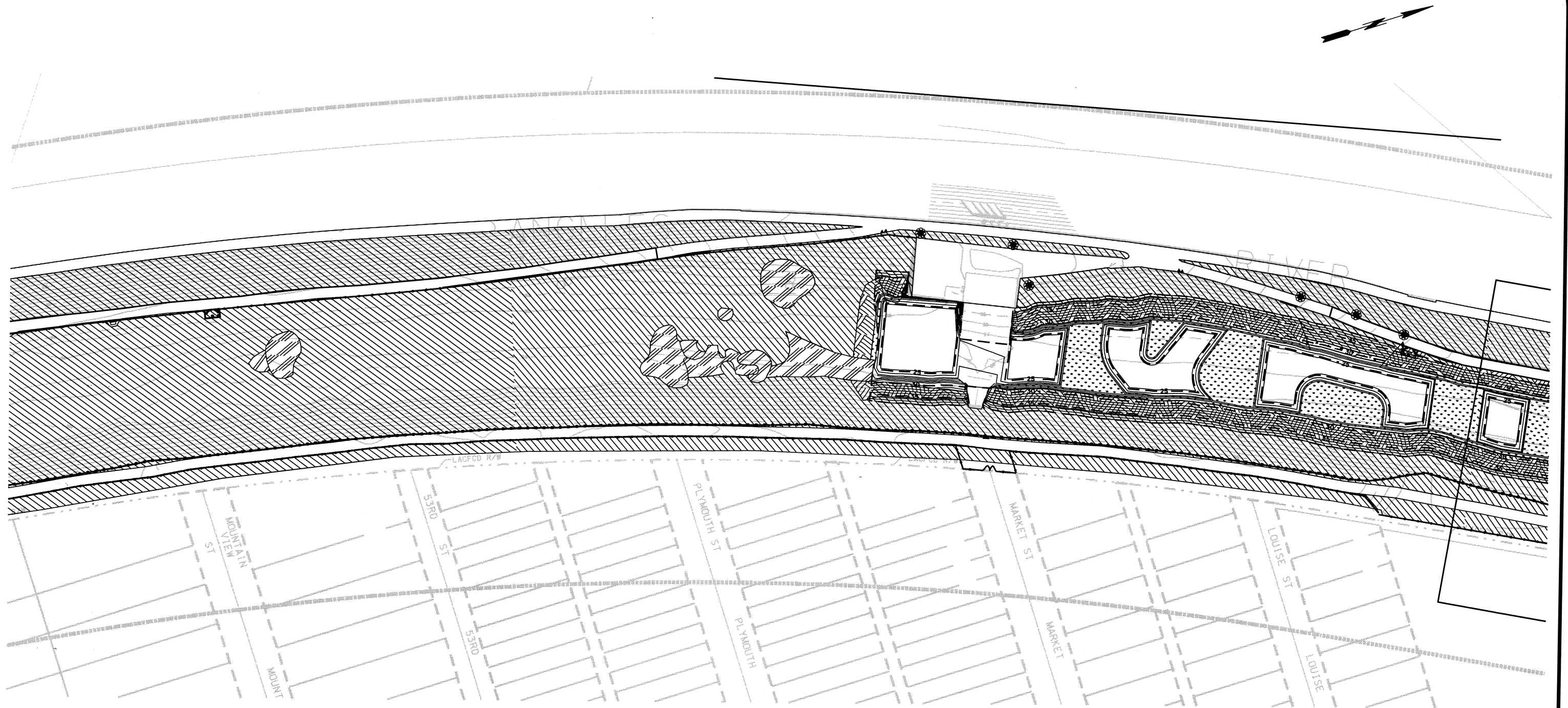


# LEGEND

	Existing Cottonwoods		Existing Willows		Riparian Woodland		No Plant Zone
	Existing Natives		Native Scrub		Emergent Marsh		Proposed Trees
	Existing Sycamores		Proposed Grove		Transitional Marsh		

FIGURE 9  
JOINT DOMINGUEZ GAP AND DEFOREST  
TREATMENT WETLANDS PROJECT  
DEFOREST MARKET STREET BASIN  
CENTRAL AREA



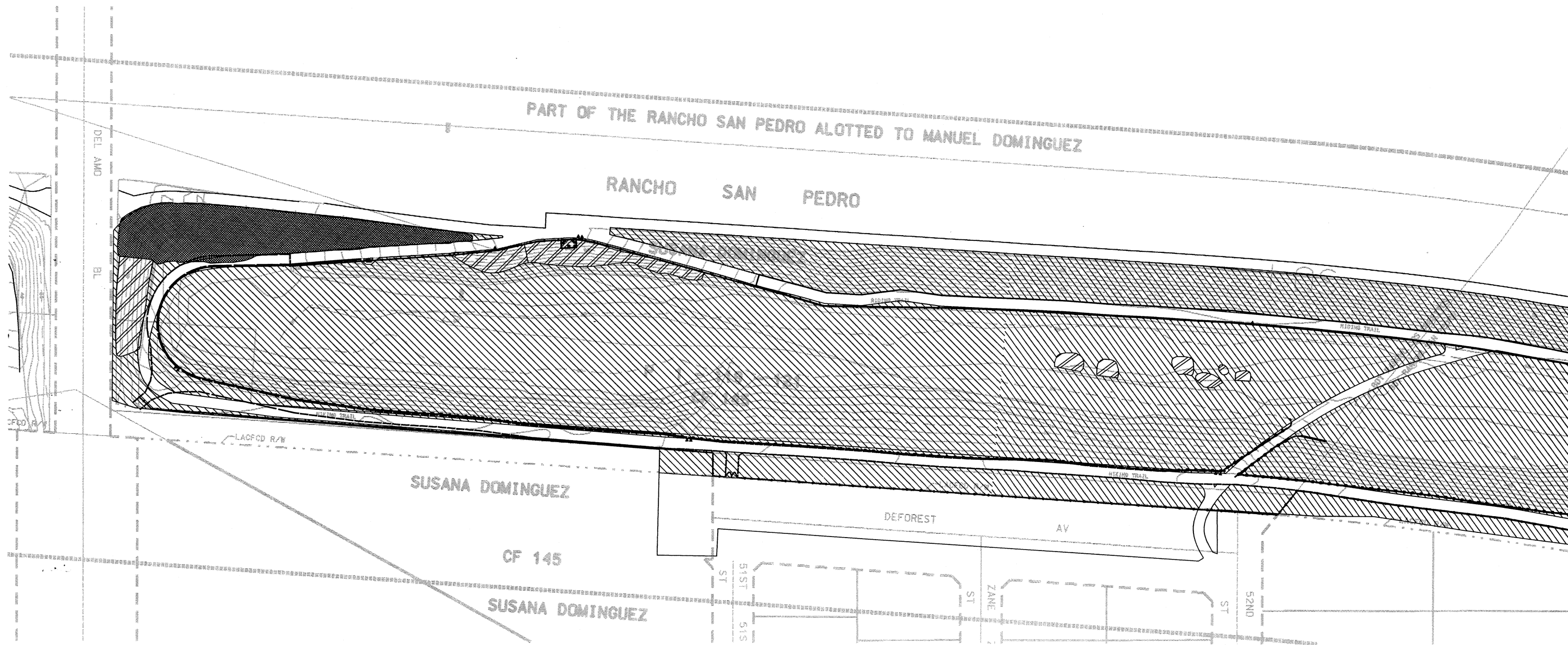


# LEGEND

	Existing Cottonwoods		Existing Willows		Riparian Woodland		No Plant Zone
	Existing Natives		Native Scrub		Emergent Marsh		Proposed Trees
	Existing Sycamores		Proposed Grove		Transitional Marsh		

FIGURE 10  
JOINT DOMINGUEZ GAP AND DEFOREST  
TREATMENT WETLANDS PROJECT  
DEFOREST MARKET STREET BASIN  
SOUTH CENTRAL AREA





**LEGEND**

	Existing Cottonwoods		Existing Willows		Riparian Woodland		No Plant Zone
	Existing Natives		Native Scrub		Emergent Marsh		Proposed Trees
	Existing Sycamores		Proposed Grove		Transitional Marsh		

**FIGURE 11**  
**JOINT DOMINGUEZ GAP AND DEFOREST**  
**TREATMENT WETLANDS PROJECT**  
**DEFOREST MARKET STREET BASIN**  
**SOUTHERN AREA**



Based on the locations and sizes of the storm drain outlets and the inlet from the River, two different trash removal technologies may be employed: (1) floating trash booms, and (2) inline screens. Both of these technologies would require periodic maintenance depending upon the quantity of trash conveyed to the basin.

The floating trash booms would be used to remove trash from the Project 130 storm drain. There would be two booms, one located north of the drain and one located south of the drain. The booms would be configured to rise with the water level during stormwater retention operations in the basin so that the collected trash would not be lost.

The Market Street Basin receives flow through the following structures:

- Harding Street storm drain, one 14-foot by 8-foot box outlet and one 90-inch-diameter pipe outlet
- 30-inch-diameter storm drain outlet from DeForest Park
- Project 129 storm drain, one 30-inch-diameter pipe outlet
- 18-inch-diameter storm drain outlet from local neighborhoods
- Market Street storm drain, one 15-foot by 11-foot box outlet

In addition to the existing sources, a 24-inch-diameter inlet from the River will be constructed to provide supplemental flow to the wetlands (see Section 2.3.2.8 below).

It is anticipated that the floating trash booms and the inline trash screens would be employed. The floating trash booms would only be used at the Market Street storm drain.

Other major storm drain outlets and the inlet from the River may use the inline trash screens.

#### 2.3.2.8 River Water Diversion Structure to Market Street Basin

As mentioned in Section 2.3.2.7, part of the improvements to the Market Street Basin includes the addition of a diversion structure to bring flow from the River to provide a supplemental source of water for the wetlands. The structure would consist of a rectangular concrete box buried underneath the bed of the River adjacent to the low-flow channel. Water from the low flow channel would flow into the structure through grates in the top. A 24-inch-diameter pipe would convey the water to the north end of the Market Street basin, near the Harding Street storm drain outlet. Access to the River for construction would be from the existing maintenance ramp. An average of about 2.0 cubic feet per second (cfs) on a year-round basis, with up to 5 cfs in the summer months, and less in the winter months. Other water inflow into the system includes storm flow during the rainy season, and low-flow urban runoff year-round.

A structure to house a control valve would be located on the east side of the River levee at an elevation higher than the maximum water level in the basin to ensure access to the valve in flood conditions. The valve would provide control of the flow to the basin.

#### 2.3.2.9 Use of River Water Diversion Structure to Dominguez Gap Spreading Ground

The existing diversion structure from the River to the East Basin of the Dominguez Gap Spreading Grounds would continue to be used to provide supplemental water to the wetlands during dry weather. The structure is located below the low-flow channel beneath the Del Amo Boulevard Bridge. The flow to the basin is controlled by a sluice gate at the

diversion structure. Anticipated flow would include an average of about 1.75 cfs on a year-round basis, with up to 5 cfs in the summer months, and less in the winter months. Other water inflow into the system includes storm flow during the rainy season, and low-flow urban runoff year-round.

#### **2.3.2.10 Low Flow Outlets to River**

During normal operations, the flows in the wetlands would range between approximately 5 to 15 cfs. For the Dominguez Gap site, the flow would continue to the West Basin for groundwater recharge. As the recharge would vary depending upon the water table and the maintenance cycle, a bypass would be installed from the location of the existing 42-inch-diameter siphon to the existing Dominguez Gap Pump Station. The pump station is currently outfitted with a sump pump which would pump this excess flow back to the River. Because the sump pump is old and in need of replacement, a new pump would be included in the proposed Project.

For the Market Street Basin, the existing sump pump may be replaced with a new pump and some of the existing piping may be replaced as needed in the Market Street Pump Station to discharge the flow back to the River, or flow would be diverted to the Dominguez Gap East Basin.

## **2.4 Construction**

Project construction would occur between 7:00 a.m. and 7:00 p.m. Monday through Friday, and 9:00 a.m. and 6:00 p.m. on Saturday. No construction activities would occur outside these hours or on Sunday or federal holidays unless a temporary waiver is granted by an authorized representative of the City of Long Beach or for emergency purposes. Construction of the proposed Project would include excavation and grading, installation of structures, and landscape and planting. Each of these activities is described in greater detail in the following sections.

### **2.4.1 Access and Staging**

Access to the proposed Project would primarily occur from Del Amo Boulevard. Equipment, materials, and workers would generally exit Interstate 710 at Del Amo Boulevard. This would provide direct access to both the Dominguez Gap Spreading Grounds and the Market Street Basin, and would not require traveling through residential areas. Equipment and materials staging would occur onsite.

### **2.4.2 Anticipated Schedule**

It is anticipated that implementation of the proposed Project would occur as two distinct construction activities. Specifically, these include the (1) Dominguez Gap Spreading Grounds, and the (2) Market Street Basin. The anticipated schedule for each construction activity is described below.

#### **2.4.2.1 Dominguez Gap Spreading Grounds Construction**

It is anticipated that construction of the proposed Project at the Dominguez Gap Spreading Grounds, including both the East and West Basin, would occur between April 2006 and October 2007. Earth-moving activities and heavy equipment use would primarily occur between May 2006 and September 2006, during the dry season.



#### 2.4.2.2 Market Street Basin Construction

It is anticipated that construction of the proposed Project at the Market Street Basin, including both the northern and southern segment, would occur between April 2007 and October 2008. Earth-moving activities and heavy equipment use would primarily occur between May 2007 and September 2008, during the dry season.

#### 2.4.3 Clearing and Grubbing

Existing non-native vegetation would initially be removed from the proposed Project site using heavy equipment. This would include loaders and excavators to remove existing vegetation, and heavy trucks to transport cleared material. Tree and vegetation clearing using heavy equipment and workers would take up to 2 weeks on the Dominguez Gap site, and up to 1 month on the DeForest site.

#### 2.4.4 Excavation and Grading

Excavation and grading of the Dominguez Gap Spreading Grounds would take approximately 9 months. Roughly 25,000 cubic yards of material would be excavated for construction of the proposed treatment wetland and groundwater recharge areas. The net excavation would be balanced. Topsoil would be stored onsite at a location that would not affect the operation of the basin and would be used later as fill material.

Excavation and grading of the Market Street Basin would take approximately 12 months. Roughly 60,000 cubic yards of material would be excavated for construction of the proposed wetland and riparian habitat. The excavated material may be used to raise the elevation of the existing ball fields at DeForest Park. Topsoil would be stored onsite at a location that would not affect the basin operation and would be used later as fill material.

#### 2.4.5 Structure Installation

Installation of the River diversion structure to divert flows to the Market Street Basin would require approximately 3 months and would be completed between July and September. The installation would require the temporary diversion of the low-flow channel around the diversion location. The pipe within the River would be open cut to the edge of the levee. The pipe would then be tunneled under the levee. The remainder of the pipe to the outlet would be open cut.

Trash removal devices would be installed on storm drain outlets and would be completed in conjunction with the grading in the basin. Additionally, installation of the sump pumps in the Dominguez Gap and Market Street Pump Stations and the Dominguez Gap pump back pipeline would occur at the same time.

#### 2.4.6 Landscape and Planting

Landscape and planting would occur following excavation and grading and structure installation, and would involve landscaping the passive recreation areas and planting the native wetland and riparian vegetation. Specifically, this would include the following:

- After final grade is achieved a temporary irrigation system would be installed on all upland areas within the proposed Project. This installation would require up to 2 months with a work crew of approximately 12 individuals.
- After the irrigation system is installed and tested, the site would be subjected to heavy irrigation for several weeks to germinate any residual weed seed. After seed is

germinated and allowed to grow for a time, weeds would be sprayed with herbicide. This “grow and kill” process may be repeated.

- After final grade is achieved within the wetland area, and wetland infrastructure is complete, the wetland area would be hydrated by allowing diversion water to enter.
- Plant materials would be transported to the site via flatbed trucks and stored in various locations on the site prior to planting. Wetland and upland planting would occur with crews of approximately 12 individuals with power augers and hand tools. Container stalk, cuttings, and wetland plant pots or plugs would be installed over a period which may take up to 3 months.

### 2.4.7 Equipment Use

The estimated number and types of equipment, operating hours, and crews are listed in Table 2-2.

TABLE 2-2  
Equipment Use

Activity	Equipment	Hours of Operation/Day	Number of Working Days	Workers (Total)
Clearing and Grubbing	2 Dozers	5	40	12
	2 Front-end loaders	8		
	1 Excavator	8		
	4 Dump trucks	8		
	Water truck	2		
Excavation and Grading	2 Dozers	5	100	12
	2 Front-end loaders	8		
	1 Excavator	8		
	4 Dump trucks	8		
	Water truck	2		
Installation	Excavator	8	80	16
	Front-end loader	8		
	Dump truck	8		
	Water truck	2		
	Crane	8		
	Concrete truck	4		
	Delivery truck	4		
Landscape and Planting	Roller	8	60	12
	Paver	8		
	Water truck	2		
	Delivery truck	4		
Irrigation System	Delivery truck	2	40	12
Construction Management	4 Pickup trucks	8	300	4

## 2.5 Operation and Maintenance

An Operations and Maintenance Manual will be developed and implemented for the proposed Project, for both the Dominguez Gap basins and the Market Street Basin. This manual would include proposed monitoring, operations, and maintenance activities and methods, scheduling, staffing, responsible parties, funding, reporting, and any other information pertinent to managing the proposed Project site. The following information will be provided in the Operations and Maintenance Manual:

- Ongoing monitoring, which would include water quantity/flow, water quality, groundwater recharge levels, vegetation condition and density, presence of potential contaminants, wildlife using the site, vectors and nuisance insects, and erosion and sedimentation, among other data.
- Wetland operations methods and requirements, including treatment/influent flow operational options, flow control from the Los Angeles River, hydraulic control structures, flow control to the siphon, flow control to bypass line to pump station.
- Wetlands facility maintenance including mechanical items, weir gate, sluice/slide gates, and stoplogs, pump station sump pumps, trash management, trash screens, floating trash booms, silt/solids deposition management.
- Vegetation and landscape maintenance, which would include irrigation operations, weed/exotic species management, wetland plant maintenance, tree maintenance, shrub maintenance, grass, sedge, and yarrow management, vine maintenance, fertilization and mulch, pest management, green waste management, erosion management and control; Landscape maintenance will be conducted in accordance with the Draft Los Angeles River Master Plan Landscaping Guidelines and Plant Palettes (Los Angeles County, 2004).
- Public use amenities maintenance will also be conducted according to the Landscape Maintenance Guidelines and would include litter control, trash receptacle maintenance, hardscape, access roads and trails, site furnishings, and graffiti removal.
- Wildlife management, which will include exotic species and control, habitat management, and sensitive species protection.
- Vector and nuisance insect control, which would identify vector and nuisance insect species, wetland habitat management for vectors, wetland flow management for vectors, and active control methods.

It is anticipated that the proposed Project would require, at a minimum, the same activities for operation and maintenance as are currently undertaken at the proposed Project site. In addition, ongoing operation and maintenance of the proposed Project would include the following activities:

- Pruning of vegetation near trails to maintain access and ensure public safety
- Re-grading of trails and/or resurfacing or repairing as needed
- Periodic sediment removal from open water areas
- Periodic drying and ripping of the West Basin bottom to maintain groundwater recharge
- Control of invasive species through mechanical or chemical means

- Actions to maintain plant health including tilling, staking, fencing, replacing, and other necessary actions
- Trash removal from trash booms and throughout the site, as needed
- Repair and replacement of signage, gates, and any other structural elements
- Actions to control vectors, as needed, including application of larvicide, introduction of mosquito fish, and rodent or feral animal trapping
- Actions to monitor habitat establishment and site performance including transect measurements, water quality sampling, and soil sampling

In addition, operation and maintenance would involve monitoring and maintaining the habitats, maintenance of trails, a higher level of trash and debris and periodic sediment removal from open water areas.

## 3.0 Environmental Setting, Impacts, and Mitigation Measures

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### 3.1 Introduction

Chapter 3 provides the setting for each environmental resource area, identifies applicable standards for the environmental resource areas, presents an analysis of potential impacts associated with the proposed Project, and provides mitigation measures, where applicable, for potentially significant environmental impacts. The impact analysis provided in this chapter has been prepared in accordance with CEQA Guidelines. A brief overview from the CEQA Guidelines on determining the significance of potential impacts is provided below.

#### 3.1.1 Determining Significance

Determining whether an impact is significant is a critical and often controversial aspect of the environmental review process. The determination of significance is critical because it requires that a project be altered or that mitigation measures be implemented to avoid impacts, or reduce impacts to less-than-significant levels to the extent feasible under CEQA. Determining significance can sometimes be controversial because, when no clear standards or thresholds exist, a decision regarding significance of an impact must often be based on professional judgment.

##### 3.1.1.1 CEQA Guidance

The CEQA Guidelines (Section 15382) define the term “significant effect on the environment” as “a substantial or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.” The CEQA Guidelines further state that the determination of whether a project could have a significant effect on the environment requires careful judgment on the part of the public agency involved and that this judgment should be based, to the extent possible, on “scientific and factual data” (Section 15064(b)). CEQA also states that there is no predetermined definition of “significant effect” because the significance of an activity can vary with the setting. For example, an activity that might not have a significant effect in an urban area could be considered significant in a rural area (Section 15064(b)).

##### 3.1.1.2 Proposed Project Approach

Standards of significance for the proposed Project include the questions contained in CEQA Guidelines Appendix G, Environmental Checklist. Additional significance criteria include approved standards and are intended to provide additional evidence for the determination of impact significance.

### 3.2 Aesthetics

Aesthetic resources are generally defined as the natural and built features of the landscape that can be seen and that contribute to the public's enjoyment of the environment. The goal

of this section is to characterize the baseline aesthetic conditions in the proposed Project area and assess how they would be altered by development of the proposed Project. The analysis includes a summary of the existing visual setting, an evaluation of visual changes associated with the proposed Project, identification of any aesthetic impacts that would be significant, and identification of any measures needed to mitigate the visual effects of the proposed Project.

### 3.2.1 Setting

The Dominguez Gap Spreading Grounds consists of two basins that are divided into eastern and western segments by the River, and are referred to as the East Basin and the West Basin. The banks of the West Basin are sparsely vegetated with non-native invasive weedy species and a few trees. The East Basin contains several storm drain outlets and is also sparsely vegetated with non-native invasive upland vegetation. The East Basin is further segmented by the Union Pacific Railroad. The visual appearance of the East and West Basins is of degraded natural habitat and is considered to be of low-level visual character and quality.

The Market Street Basin consists of two segments that are divided into northern and southern segments by Long Beach Boulevard and are referred to as northern segment and southern segment. The northern segment has been planted with a variety of native and non-native trees. Three storm drains (Harding Street Storm Drain, local storm drain at Cedar Street, and the storm drain from DeForest Park) that enter the northern segment support a well-established willow woodland and emergent marsh. The Market Street Pump Station is located at roughly the center of this segment and the site drains to the pump station. The southern segment is sparsely vegetated with non-native invasive species and actively maintained by DPW as an earthen-trapezoidal basin. The visual appearance of the Market Street Basin is of degraded natural habitat and is considered to be of low-level visual character and quality.

### 3.2.2 Impacts

The evaluation of visual changes that could result from the proposed Project is based on consideration of the setting and the implementation of the proposed Project described in Chapter 2, Project Description.

#### 3.2.2.1 Thresholds of Significance

Analysis of the impacts of the proposed Project is based on evaluation of the changes to the existing visual resources that would result from construction and operation of the proposed Project. Impacts to aesthetics would be considered significant if construction or operation of the proposed Project would substantially degrade the existing visual character or quality of the site and its surroundings.

Other significance criteria identified in the CEQA Checklist were evaluated in the Initial Study for the proposed Project, which is included in Appendix A. The proposed Project was determined to have no impact associated with these other significance criteria for the following reasons: (1) The proposed Project would enhance and revitalize the aesthetic qualities of the proposed Project site consistent with the objectives identified in the Los Angeles River Water Plan (Los Angeles County, 1996) and the City of Long Beach Strategic Plan 2001 - 2010 (City of Long Beach, 2001); (2) The proposed Project site is not located within the vicinity of and is not adjacent to a state scenic highway; and (3) Low-level

safety lighting that may be included as part of the proposed Project would not create a new source of substantial light or glare.

### 3.2.2.2 Evaluation

#### Construction

Construction of the proposed Project would include some excavation and grading of the site, construction of trash removal devices at major storm drain outlets, construction of the River water diversion structure to divert water to the Market Street Basin, and construction of a new outlet from the West Basin to the River. During construction, heavy equipment, piles of construction materials, and parked cars would be visible in the area. This would be a temporary visual impact and would occur at the Dominguez Gap Spreading Grounds between April 2006 and October 2007 and at the Market Street Basin between May 2007 and September 2008. However, at present, much of the natural habitat, which is the main aesthetic value of the site, has been degraded by human-induced disturbances. Thus, views are considered to be of low-level visual character and quality. While the views of the proposed Project site would be temporarily impacted by construction activities, the existing level of visual character and quality of its surroundings would not be further degraded. Therefore, based on the short-term nature of construction, and the currently degraded visual character of the site, Project construction would not be considered a significant impact.

#### Operation

The proposed Project would enhance and revitalize the aesthetic qualities of the natural habitat at the proposed Project site, which is consistent with the objectives identified in the Los Angeles River Master Plan (Los Angeles County, 1996) and the City of Long Beach Strategic Plan 2001 – 2010 (City of Long Beach, 2001). Operation of the proposed Project would primarily consist of trash removal, removal of excess vegetative cover, monitoring, and general maintenance of the proposed Project. All operational activities are periodic in occurrence, and would serve to maintain the improved visual character of the site.

### 3.2.3 Mitigation Measures

Because the proposed Project would not result in any aesthetic impacts that are significant under CEQA criteria, no mitigation measures are required.

#### 3.2.3.1 Construction

None required.

#### 3.2.3.2 Operation

None required.

### 3.2.4 Significance After Mitigation

Not applicable.

## 3.3 Air Quality

### 3.3.1 Setting

The proposed Project is located in Los Angeles County, which is part of the South Coast Air Basin (SCAB). This region is regulated by the South Coast Air Quality Management

District (SCAQMD). As shown below in Table 3-1, U.S. Environmental Protection Agency (EPA) has designated the SCAB as being in severe nonattainment for ozone ( $O_3$ ) and serious nonattainment for particulate matter less than 10 microns ( $PM_{10}$ ). The region is also expected to be in nonattainment with the  $PM_{2.5}$  standards because the 2003 Air Quality Management Plan (AQMP) indicates that EPA is expected to give the region until 2014 to comply with the 1997 standards. The region has demonstrated attainment with all other criteria pollutants (SCAQMD, 2003).

TABLE 3-1  
Federal and State Designations of the South Coast Air District

Pollutant	Federal		State Standards
	Designation	Classification	
Ozone	Nonattainment	Severe <sup>a</sup>	Nonattainment
$PM_{10}$	Nonattainment	Severe	Nonattainment
CO	Attainment		Attainment
$NO_2$	Attainment		Attainment
$SO_2$	Attainment		Attainment

Source: South Coast Air Quality Management District air quality data from [www.aqmd.gov](http://www.aqmd.gov) and the 2003 Air Quality Management Plan Executive Summary Chapter.

<sup>a</sup>The likely attainment date from EPA for meeting the ozone standard is 2021 (2003 AQMP, page ES-8).

National Ambient Air Quality Standards (NAAQS) have been established for seven “criteria” air pollutants. The primary national standards were established to protect public health with a built-in margin of safety. The secondary standards were established to protect and account for air pollutants effect on soil, water, visibility, vegetation, and other aspects of the general welfare of the human population. The State of California also has established California Ambient Air Quality Standards (CAAQS) for the criteria pollutants, as well as several additional pollutants. The NAAQS and CAAQS are presented in Table 3-2.

The SCAQMD has set up a network of air quality monitoring facilities throughout the SCAB, and has divided the SCAB into air monitoring subregions. The proposed Project is within the South Coastal Los Angeles County Air Monitoring Subregion, which is designated as Area 4. The criteria pollutants carbon monoxide (CO),  $O_3$ , nitrogen dioxide ( $NO_2$ ), sulfur dioxide ( $SO_2$ ),  $PM_{10}$ , and  $PM_{2.5}$  are measured at several Area 4 subregion monitoring stations, which are representative of the air quality at the proposed Project site. Table 3-3 shows the highest monitored levels of these air pollutants from 2000 through 2002, the last 3 years of available data. The California  $O_3$  standard was exceeded in this subregion three times in 2000, and the California  $PM_{10}$  standard was exceeded 12 times in 2000, 10 times in 2001, and 5 times in 2002. The federal  $PM_{2.5}$  standard was exceeded in this subregion four times in 2000 and one time in 2001. Also, the California sulfate standard was exceeded on 1 day in 2000.



TABLE 3-2  
Ambient Air Quality Standards

Pollutant	Average Time	California Standards	Federal Standards	
		Concentration	Primary	Secondary
Ozone	1 hour	0.09 ppm	0.12 ppm	Same as Primary Standards
	8 hours		0.08 ppm	
Carbon Monoxide	8 hours	9.0 ppm	9.0 ppm	None
	1 hour	20 ppm	35 ppm	
Nitrogen Dioxide	Annual Average	--	0.053 ppm	Same as Primary Standard
	1 hour	0.25 ppm	--	
Sulfur Dioxide	Annual Average	--	0.030 ppm	--
	24 hours	0.04 ppm	0.14 ppm	--
	3 hours	--	--	0.5 ppm
	1 hour	0.25 ppm	--	--
Suspended Particulate Matter (PM <sub>10</sub> )	24 hours	50 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$	Same as Primary Standard
	Annual Arithmetic Mean	20 $\mu\text{g}/\text{m}^3$	50 $\mu\text{g}/\text{m}^3$	
Suspended Particulate Matter (PM <sub>2.5</sub> )	24 hours	12 $\mu\text{g}/\text{m}^3$	15 $\mu\text{g}/\text{m}^3$	--
	Annual Arithmetic Mean	25 $\mu\text{g}/\text{m}^3$	--	--
Sulfates	24 hours	25 $\mu\text{g}/\text{m}^3$	--	--
Lead	30-day Average	1.5 $\mu\text{g}/\text{m}^3$	--	--
	Calendar Quarter	--	1.5 $\mu\text{g}/\text{m}^3$	Same as Primary Standard

Source: California Air Resources Board, July 9, 2003

ppm = parts per million

$\mu\text{g}/\text{m}^3$  = micrograms per cubic meter

Note: There are also CAAQS for visibility reducing particles, hydrogen sulfide, and vinyl chloride; however, they are not currently being monitored in the SCAB.

TABLE 3-3  
Maximum Ambient Levels for Criteria Pollutants at South Coastal Los Angeles County Air Monitoring Subregion (Area 4)

Air Pollutant	Standard Exceedance	South Coastal LA County - Area 4		
		2000	2001	2002
Carbon Monoxide (CO)	Max. 1-hr Concentration (ppm)	10	6	6
	Max. 8-hr Concentration (ppm)	5.8	4.71	4.6
	# Days > Federal 1-hr Std. Of > 9.5 ppm	0	0	0
	# Days > California 8-hr Std. of > 9.0 ppm	0	0	0
Ozone (O <sub>3</sub> )	Max. 1-hr Concentration (ppm)	0.12	0.091	0.084
	Max. 8-hr Concentration (ppm)	0.080	0.070	0.065
	# Days > Federal 1-hr Std. Of > 0.12 ppm	0	0	0
	# Days > Federal 8-hr Std. of > 0.08 ppm	0	0	0
	# Days > California 1-hr Std. of > 0.09 ppm	3	0	0
Nitrogen Dioxide (NO <sub>2</sub> )	Max. 1-hr Concentration (ppm)	0.14	0.13	0.13
	# Days > California 1-hr Std. of > 0.25 ppm	0	0	0
Suspended Particulate Matter (PM <sub>2.5</sub> )	Number of Samples	304	317	356
	Max. 24-hr concentration (µg/m <sup>3</sup> )	81.5	72.9	62.7
	# Samples > Federal 24-hr Std. of > 65 µg/m <sup>3</sup>	4	1	0
	Annual Arithmetic Mean (µg/m <sup>3</sup> )	19.2	21.4	19.5
Sulfur Dioxide	Max. concentration in 1 hr (ppm)	0.05	0.05	0.03
	Max. concentration in 24 hours (ppm)	0.014	0.012	0.008
Suspended Particulate Matter (PM <sub>10</sub> )	Number of Samples	57	59	58
	Max. 24-hr Concentration (µg/m <sup>3</sup> )	105	91	74
	# Samples > Federal 24-hr Std. of > 150 µg/m <sup>3</sup>	0	0	0
	# Samples > California 24-hr Std. of 50 µg/m <sup>3</sup>	12	10	5
	Annual Arithmetic Mean (µg/m <sup>3</sup> )	37.6	37.4	35.9
Total Suspended Particulates	Number of Samples	61	68	61
	Max. 24-hr Concentration (µg/m <sup>3</sup> )	164	113	104
	Annual Arithmetic Mean (µg/m <sup>3</sup> )	68.2	67.2	65.5
Lead	Max. Monthly Average Concentration (µg/m <sup>3</sup> )	0.05	0.05	0.03
	Max. Quarterly Average Concentration (µg/m <sup>3</sup> )	0.04	0.04	0.02
Sulfate	Max. 24-hr Concentration (µg/m <sup>3</sup> )	26.7	15.9	17.8
	# Days > California 24-hr Std. of > 25 µg/m <sup>3</sup>	1	0	0

Source: Air Quality data downloaded at [www.aqmd.gov](http://www.aqmd.gov).

Criteria pollutants were established based on the effects of the pollutants on human health. Following is a description of the adverse effects of criteria pollutants, as well as the primary sources of pollutant emissions in urban areas.

### Carbon Monoxide

In urban areas, the primary cause of CO pollution is incomplete combustion of gasoline in motor vehicles. CO levels can vary substantially over short distances. Typically, higher concentrations are found near intersections or along heavily traveled roadways with slow-moving traffic. CO is a colorless and odorless gas, which makes high concentrations dangerous because they cannot be detected by human senses. High concentrations can

cause headaches, aggravation of cardiovascular disease, and the impairment of the central nervous system.

#### Sulfur Oxide

Sulfur oxides (SO<sub>x</sub>) consist mainly of sulfur dioxide and sulfur trioxide. SO<sub>x</sub> can have adverse health effects on the respiratory system, causing damage to the respiratory tract and bronchi constriction.

#### Nitrogen Oxides

Nitrogen oxides (NO<sub>x</sub>) are of concern because of the role they play in the formation of ozone. Because reactions to form ozone are slow and occur as pollutants diffuse downwind, ozone is addressed on a regional basis.

#### Fine Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>)

PM<sub>10</sub> and PM<sub>2.5</sub> consist of extremely small suspended particles or droplets that are 10 and 2.5 micrometers (or microns) or smaller, respectively, in diameter that can lodge in the lungs and contribute to respiratory problems. PM<sub>10</sub> and PM<sub>2.5</sub> arise from such sources as road dust, diesel soot, combustion products, abrasion of tires and brakes, construction operations, and windstorms. They are also formed in the atmosphere from NO<sub>2</sub> and SO<sub>2</sub> reactions with ammonia. PM<sub>10</sub> and PM<sub>2.5</sub> scatter light and significantly reduce visibility.

PM<sub>10</sub> and PM<sub>2.5</sub> pose a serious health hazard, alone or in combination with other pollutants. Particulate emissions from diesel-fueled engines have been identified as a toxic air contaminant by the California Air Resources Board.

#### Lead

Lead (Pb) emissions from vehicles have decreased substantially since leaded gasoline was phased out in the United States. As a result, an analysis of lead impacts is only conducted on projects that emit significant quantities of lead.

#### Ozone

The most widespread air quality problem in the state, ozone is a colorless gas with a pungent, irritating odor. Ozone is not emitted directly into the atmosphere, but is formed primarily when reactive organic gases (ROG) and NO<sub>x</sub> react in the presence of sunlight. Ozone is present in relatively high concentrations in the SCAB, and the damaging effects of photochemical smog are generally related to the concentrations of ozone. Ozone may pose its worst health threat to those who already suffer from respiratory diseases. Ozone also hurts healthy people. The health effects of ozone can include reduced lung function; aggravated existing respiratory illness; and irritated eye, nose, and throat tissues. Chronic exposure can cause permanent damage to the alveoli of the lungs. The SCAB has peak ozone levels 2.5 times higher than the federal health standard and 3 times higher than the more stringent state standard.

### 3.3.2 Impacts

#### 3.3.2.1 Thresholds of Significance

Air quality standards of significance for the proposed Project were determined from adopted standards from the following sources:

- CEQA Checklist
- SCAQMD CEQA Air Quality Handbook (SCAQMD, 1993)

Based on guidance from the above sources, impacts to air quality would be considered significant if construction or operation of the proposed Project would result in any of the following:

- Conflict with, or obstruct implementation of, the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the proposed Project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people
- The SCAQMD CEQA Air Quality Handbook (SCAQMD, 1993) lists the following pollutant levels as significant for construction projects:

<b>Pollutant</b>	<b>Daily Significance Threshold (lb/day)</b>
Reactive Organic Gases	75
Nitrogen Oxides	100
Carbon Monoxide	550
Particulate Matter	150
Sulfur Oxides	150

Impacts to air quality from the proposed Project would be significant if the above daily pollutant emission levels were exceeded during construction.

The SCAQMD CEQA Air Quality Handbook (SCAQMD, 1993) lists the following pollutant levels as significant for operation of projects:

<b>Pollutant</b>	<b>Daily Significance Threshold (lb/day)</b>
Reactive Organic Gases	55
Nitrogen Oxides	55
Carbon Monoxide	550
Particulate Matter	150
Sulfur Oxides	150

Impacts to air quality from the proposed Project would be significant if the above daily pollutant emission levels were exceeded during operation.

### 3.3.2.2 Evaluation

New emissions would be limited to temporary construction activities. Fugitive dust produced during grading, excavation, and construction activities would be controlled pursuant to

SCAQMD Rule 403. Rule 403(d)(2) requires activities conducted in the SCAB to use one or more of the best available control measures (BACM) identified in Table 1 of Rule 403 to minimize fugitive dust ( $PM_{10}$  emissions) from each fugitive dust source type. In addition, large operations must comply with Rule 403(e) which requires implementation of applicable actions specified in Table 2 of Rule 403 at all times, and applicable actions specified in Table 3 of Rule 403 when the applicable performance standards can not be met through use of Table 2 actions. The fugitive dust control measures applicable to the proposed Project are provided in 3.2.3.1 below.

Compliance with Rule 403(e) also includes requirements to notify SCAQMD using Form 403N or acquire approval from SCAQMD of a dust control plan. Large operations are defined as active operations on property, which contains 50 or more acres of disturbed surface area; or any earth-moving operation with a daily earth-moving throughput volume of 3,850 cubic meters (5,000 cubic yards) more than three times during the most recent 365-day period.

Implementation of Rule 403 is assumed to reduce fugitive  $PM_{10}$  by 50 percent, and is accounted for in the maximum daily emissions calculated below.

To evaluate potential construction-related air quality impacts, anticipated construction emissions were determined and compared to the thresholds of significance for construction emissions provided above. Emissions from heavy equipment use and worker travel to and from the site, as identified in Table 2-2, were calculated based on a worst-case daily emissions scenario for an 8-hour work day, with the exception of dozers which would be limited to operation hours of 5 hours per day. Additionally, construction activities would generate dust from soil disturbance.  $PM_{10}$  emissions were calculated by combining the estimated surface area disturbance with typical dust generation factors. Emissions were calculated using the CARB approved URBEMIS 2002 Model.

Table 3-4 summarizes the emissions associated with the proposed Project construction. It was assumed the construction activities would be completed consecutively. Detailed construction emissions calculations are provided in Appendix B of this document.

TABLE 3-4  
Construction Emissions

Construction Emissions					
Attribute		Emissions			
Criteria Pollutant	NO <sub>x</sub>	CO	PM <sub>10</sub>	ROC	SO <sub>x</sub>
Unmitigated Max Project (lb/day)	93.37	51.03	217.39	8.39	8.18
Mitigated Max Project (lb/day)	93.37	51.03	147.81 <sup>a</sup>	8.39	8.18
SCAQMD Threshold (lb/day)	100	550	150	75	150

<sup>a</sup> Assumes a 34% reduction from watering on-site exposed surfaces twice daily, as required in Mitigation Measure AQ-1. This is a conservative assumption relative to the 50 percent  $PM_{10}$  reduction stated in Rule 403.

As shown in Table 3-4, unmitigated construction emissions would result in an exceedance of the SCAQMD significance criteria for  $PM_{10}$ . However, implementation of Rule 403 is assumed to reduce fugitive  $PM_{10}$  by 50 percent. To be conservative, a 34 percent reduction of fugitive  $PM_{10}$  was assumed and included in the emissions calculation above for mitigated max project. With the inclusion of Mitigation Measure AQ-1, provided in 3.2.3.1 below,

emissions associated with construction of the proposed Project would be below thresholds of significance for construction after mitigation.

### 3.3.3 Mitigation Measures

Fugitive dust control measures during construction were recognized in Section 3.3.2.2. These fugitive dust control measures would be included as part of the proposed Project. Specifically, Mitigation Measure AQ-1 has been identified to help reduce construction-related air quality impacts.

#### 3.3.3.1 Construction

AQ-1 The following control measures would be implemented during construction of the proposed Project to minimize fugitive dust emissions:

- The area disturbed by clearing, grading, earth-moving, or excavation operations should be as small as feasible to prevent excess dust.
- Pregrading/excavation activities should include watering the area to be graded or excavated before commencement of grading or excavation. Application of water (reclaimed, if available) should penetrate sufficiently to minimize fugitive dust during grading activities.
- Trucks should be required to have their loads covered as required by the SCAQMD.
- Graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved onsite roadways, shall be treated to prevent fugitive dust. Treatment should include, but not be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or toll compaction as appropriate. Watering should be done at least twice daily.
- Inactive graded and/or excavated areas should be monitored at least weekly for dust stabilization. Soil stabilization methods, such as water and roll compaction and application of environmentally safe dust control materials, should be periodically implemented over portions of the construction site that are inactive for over 4 days.
- Signs should be posted to limit traffic to 15 mph or less.
- During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), clearing, grading, earth moving, and excavation operations should be curtailed to the degree necessary to prevent fugitive dust created by onsite activities and operations from being a nuisance or hazard to offsite properties.
- Adjacent streets and roads should be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.

#### 3.3.3.2 Operation

No significant adverse air quality impacts were identified as a result of Project operation; therefore, no mitigation measures are required.

### 3.3.4 Significance After Mitigation

With implementation of the above mitigation measures, potentially adverse impacts to air quality would be reduced to less-than-significant levels.

## 3.4 Biological Resources

Biological resources evaluated for the proposed Project include native and non-native aquatic and terrestrial habitats, special-status communities, special-status plants and animals, and species groups of high recreational interest. This section describes the existing biological resources present in the proposed Project area and potential impacts to those resources that may occur with implementation of the proposed Project. For more information on Biological Resources associated with the proposed Project see Appendix C, Biological Resources Technical Report.

### 3.4.1 Setting

The proposed Project is located adjacent to the River and is surrounded on most sides by developed areas, including Interstate 710, single-family residential, high-density residential, and public right-of-way. The River in this location is in a concrete-lined channel, with no riparian vegetation. Degraded marsh and fragmented riparian habitat occur on the proposed Project site.

The following subsections describe the biological conditions of the proposed Project site, beginning with a regional overview, the vegetation types and habitat present in the Project area, a description of wildlife typical to the area, and a discussion of specific special-status species known to occur in the general region.

#### 3.4.1.1 Vegetation and Wildlife Communities

Existing biological resources on the proposed Project site are indicative of human-induced disturbance and irregular hydrology, resulting in a dominance of upland and non-native (exotic) plant species. Habitat types present and immediately adjacent to the site that could be affected by the proposed restoration alternatives include disturbed ruderal habitat; fragmented native riparian woodland, emergent wetland; and developed/ornamental landscape areas such as roadways, levees, residential areas, or structures. Within the Market Street Basin, an extensive planted woodland is present, dominated by dense, non-native woody tree species, with a few scattered native trees.

##### Disturbed/Ruderal Habitat

The proposed Project site consists of man-made retention and spreading basins which are heavily disturbed from past activities. Most of the existing upland vegetation is composed of non-native ruderal species such as giant reed (*Arundo donax*), Brazilian pepper trees (*Schinus terebinthifolius*), telegraph weed (*Heterotheca* spp.), castor bean (*Ricinus communis*), eucalyptus (*Eucalyptus* sp.), Chinese elm (*Ulmus parvifolia*), Russian thistle (*Salsola tragus*), mustard (*Brassica campestris*), wild radish (*Raphanus sativa*), and non-native grasses including soft chess (*Bromis mollis*), red brome (*B. rigidus*), wild oat (*Avena* sp.), and hordeum (*Hordeum vulgare*).

The upland areas of the West Basin are vegetated primarily with upland invasive plants such as cocklebur (*Xanthium strumarium*), castor bean, nightshade (*Solanum* spp.), white sweetclover (*Melilotus alba*), and horseweed (*Conyza canadensis*). The vegetation in this area is visibly zoned as a result of frequent changes in water surface elevation. Upland vegetation in the East Basin is also dominated by upland exotic species including castor bean, acacia trees (*Acacia greggii*), and eucalyptus. Similarly, in the Market Street Basin non-native upland vegetation is dominated by castor bean, mustard, wild radish, and non-native grasses.

The open ruderal areas within the proposed Project site provide marginal habitat for small mammals and foraging areas for raptors. Ground squirrels (*Spermophilus beecheyi*) and other small mammals are present and construct underground burrows in the friable soils of berms. These burrows can subsequently provide shelter habitat for other wildlife, including lizards, snakes, or amphibians.

#### Upland – Landscaped

Small portions of the east bank of the West Basin and the west bank of the East Basin (areas along the Los Angeles River Levee) contain recently installed native irrigated landscape, including upland shrub and herbaceous species. This vegetation community supports a mixture of sclerophyllous low chaparral shrubs and drought-deciduous sage scrub species. Characteristic species in this habitat include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), California encelia (*Encelia californica*), and several species of sage (e.g., *Salvia mellifera*, *S. apiana*). Common upland wildlife species include western fence lizard (*Sceloporus occidentalis*), California ground squirrel (*Spermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), gray fox (*Urocyon cinereoargenteus*), and various songbirds. Feral cats (*Felis catus*) and domestic dogs (*Canis familiaris*) are also present in the West Basin.

#### Non-Native Woodlands

Within the northern segment of the Market Street Basin, an extensive non-native woodland is present, consisting of ornamental landscape trees planted by volunteers during the 1970s. Trees are present in high density within some areas. A variety of species and cultivars are present, although most were not identified to species during field surveys. Some native trees are scattered throughout the canopy, including California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), and coast live oak (*Quercus agrifolia*). Native willows are present in the wetter areas where low-flow discharges are present from the storm drains providing a perennial source of water (see below). The non-native woodland extends about two-thirds of the way south along the northern segment of the Market Street Basin, where it opens into ruderal habitat just north of the Long Beach Boulevard crossing.

#### Riparian Forest and Scrub

Fragmented riparian habitat occurs along the banks of the East Basin, consisting of scattered riparian trees including black willow (*Salix gooddingii*) and sandbar willow (*Salix hindsiana*). This area is interspersed with non-native trees including eucalyptus, and elm. The woodland reaches 60 feet in height in some locations. This tree layer provides cover for wildlife and shading of the ponded areas of the East Basin. Many species of songbirds use the limited riparian habitat and exotic trees and shrubs. The proximity of extensive landscaped areas on nearby properties influences use by birds and other wildlife, providing nest and roost sites and a habitat buffer to riparian areas in the basin.

Within the northern segment of the Market Street Basin, a linear riparian corridor is present along the open water channel associated with the storm drain low-flow discharge. This discharge supports about 4 acres of seasonal wetland and riparian woodland. Dominant woodland species include black willow and sandbar willow. Fremont cottonwood is present in some limited locations, including some large individuals at the north end of the basin.

#### Emergent Wetland

Freshwater emergent wetlands occur within the proposed Project area in areas of shallow, permanent, or semi permanent inundation. The East Basin has more existing marsh and riparian habitat than the West Basin and contains greater vertical structure, primarily on the



east bank. Native species within the marsh include willow, cattail (*Typha* sp.), duckweed (*Lemna* sp.), and bulrush (*Scirpus* spp.). Generally the wetland is limited in development, and degraded from low water quality and excessive debris and trash.

Within the northern segment of the Market Street Basin, a small seasonal/emergent wetland is present, supported by low-flow discharge from the storm drain at the north end of the site, which provides a perennial water source. Dense emergent vegetation is present which is dominated by California bulrush (*Scirpus californicus*) and other species of bulrush. The wetland is surrounded by willow riparian habitat, and seasonal wetland plants are present around the perimeter, which include curly dock (*Rumex crispus*) and other hydrophytic (water-loving) vegetation.

A large number and variety of shorebirds and waterfowl use the River and are known to also use the open water of the East and West Basins for foraging and/or breeding. Breeding mallards (*Anas platyrhynchos*) and other waterfowl occur in both the northern and southern portions of the East Basin. The aquatic habitat does not support southwestern pond turtle (*Clemmys marmorata pallida*), but the non-native red-eared slider is reported in abundance.

#### Los Angeles River Habitat

The concrete-lined channel of the River lies immediately adjacent to the proposed Project, and is the location for the proposed water diversion to the Market Street Basin. The River channel in this location consists of a wide, trapezoidal channel, with a flat bottom and sloping sides, and a small rectangular low-flow channel in the center of the main channel. Within the concrete channel, no permanent vegetation is present. However, during the low-flow season, a thin sheet of water flows over this area, supporting a substantial algae mat. This mat supports invertebrates, which in turn support foraging by a variety of shorebirds. Several species of shorebird are present year-round; however, peak abundance and diversity occur during fall migration in August and early September, coincident with low water flow in the River and high algae growth (Garrett, 1993).

#### Developed and Ornamental Landscape Areas

Man-made structures within the proposed Project impact area and adjacent communities include roadways, levees, residential areas, and various infrastructure support features. Compared to vegetated habitats, these developed areas support a low diversity of wildlife. Non-native ornamental landscaping, including rose (*Rosa* sp.), olive (*Olea europea*), eucalyptus, pepper tree (*Schinus* sp.), and palm (*Washingtonia* sp.), are typical in these areas. The availability of water, shady cover, and insects make the yards and landscaping around urban areas attractive to certain adaptable species, many of which are non-native. American crows (*Corvus brachyrhynchos*), Brewer's blackbirds (*Euphagus cyanocephalus*), mourning dove (*Zenaida macroura*), Northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), and house sparrows (*Passer domesticus*) are common in these areas.

#### 3.4.1.2 Special-Status Species

Special-status species include those:

- Listed or proposed for listing by state or federal agencies as rare, threatened, or endangered
- Federal Species of Concern or State Species of Special Concern
- Species listed by the California Native Plant Society (CNPS) with a designation of Category 2 (indicating species that are rare or endangered in California but more

common elsewhere) or 1B (indicating species that are rare or endangered in California and elsewhere)

- Species identified by biologists with regional knowledge as being of conservation concern or local interest

Wildlife and habitat surveys conducted at East, West, and Market Street Basins in support of the Dominguez Gap Wetland/Recreation Study (CH2M HILL, 2001) and the DeForest Nature Center and Sixth Street Sites Wetland Feasibility Study (CH2M HILL, 2002) indicate that the degraded habitats would not support special-status species except for occasional foraging or other transient uses. A number of special-status species either historically occurred in the area or may still be present in the general vicinity of the lower Los Angeles Basin. A comprehensive list of special-status species with the potential to occur in the regional vicinity of the lower Los Angeles River is presented in Table 3-5. Species were included if they had historically or recently been recorded in the regional vicinity (from California Natural Diversity Database [CNDDB] records or other sources; queried in April 2005). These species are associated with natural habitats that were once prevalent in the area but have since been lost to extensive urban development. Habitat modification, weed control, and irrigation practices have forced many of these species into remnant pockets of marginal habitat.

The list includes species listed as threatened or endangered that have special requirements under the Federal Endangered Species Act (FESA) and California Endangered Species Acts (CESA) and other non-listed special-status species that could become listed in the future. Table 3-5 includes the habitat types that could support these species as well as the potential for occurrence in the proposed Project area.

Species with suitable habitat that may be seasonally present in the area or that require further analysis to determine presence are discussed in the following section.

#### 3.4.1.3 Special-Status Plants

A total of seven special-status plant species have been recorded in the regional vicinity. These species have the potential to occur in or near the proposed Project site. This includes Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), south coast saltscale (*Atriplex pacifica*), Parish's brittlescale (*Atriplex parishii*), salt marsh bird's beak (*Cordylanthus maritimus* ssp. *maritimus*), southern tarplant (*Hemizonia parryi* ssp. *australis*), Coulter's goldfield (*Lasthenia glabrata* ssp. *coulteri*), coast woolly heads (*Nemacaulis denudata* var. *denudata*), Brand's phacelia (*Phacelia stellaris*), and salt spring checkerbloom (*Sidalcea neomexicana*).

These species are associated with natural habitats that were once prevalent in the area but have since been lost to extensive urban development. Habitat modification, weed control, and irrigation practices have forced these species into remnant pockets of marginal habitat. Recent records indicate no observations of special-status plant species in the proposed Project work areas. The absence of historical records may be due to the lack of previous surveys performed in the area. However, the proposed Project site is extensively developed and lacks suitable habitat for any of the listed sensitive plant species.

TABLE 3-5

Special-Status Species Historically or Recently Recorded in the Regional Vicinity of the Lower Los Angeles River\*

Species	Status	Habitat Requirements	Recent Occurrence Records	Potential Occurrence on Project Site*
<b>Birds:</b>				
Cooper's Hawk <i>Accipiter cooperi</i>	CSC	Found primarily in dense stands of live oak, riparian deciduous, or other forest habitats; areas near water used most frequently. Hunts in broken woodland and habitat edges; catches prey in the air, on the ground, and in vegetation.	---	●
Sharp-shinned Hawk <i>Accipiter striatus</i>	CSC	Prefers, but not restricted to, riparian habitats. North-facing slopes, with plucking perches are critical requirements. Often forages in openings at edges of woodlands, hedgerows, brushy pastures, and shorelines, especially where migrating birds are found. Uses dense stands in close proximity to open areas.	---	○
Burrowing Owl <i>Athene cunicularia</i>	SC/CSC	Frequents open grasslands and shrublands with perches and burrows. Nests in old ground squirrel burrows or other small mammal burrows, as well as pipes, culverts, and other artificial structures. It would be constrained from occurring in the vicinity of the proposed Project by human activity and ongoing disturbance.	CNDDDB records indicate a detection occurring for the weapons bunker area at the Seal Beach Naval Weapons Station in 1983.	○
Yellow Warbler <i>Dendroica petechia brewsteri</i>	CSC	Breeds in riparian woodlands. Usually found in riparian deciduous habitats in summer: cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland. In migration, found in a variety of sparse to dense woodland and forest habitats.	---	●
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i>	FE/SE	Typically breeds in dense willow and other riparian thickets. Migrant individuals may occupy restored habitats while passing to and from breeding grounds. This species generally requires more extensive riparian habitat than would be afforded at the DeForest or Sixth Street sites.	---	○
Peregrine Falcon <i>Falco peregrinus anatum</i>	SE	This species forages for birds including waterfowl and shorebirds, typically in coastal areas or other wetlands with large concentrations of prey. It nests on natural cliff faces or artificial structures, including bridges and large buildings. This species may occasionally forage along the Los Angeles River.	Several pairs currently breed in the Long Beach Harbor area downstream from the Project site.	●

TABLE 3-5

Special-Status Species Historically or Recently Recorded in the Regional Vicinity of the Lower Los Angeles River\*

Species	Status	Habitat Requirements	Recent Occurrence Records	Potential Occurrence on Project Site*
Loggerhead Shrike <i>Lanius ludovicianus</i>	SC/CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low or sparse herbaceous cover. Searches for prey from a perch at least 0.6 meter (2 feet) aboveground. This species could potentially occupy restored riparian or open habitats at the DeForest and Sixth Street sites.	---	●
Least Bell's Vireo <i>Vireo bellii pusillus</i>	FE/SE	Found exclusively in dense willow, cottonwood, and mulefat riparian areas along water or dry parts of ephemeral streams. Migrant individuals may occupy restored habitats while passing to and from breeding grounds. This species generally requires more extensive riparian habitat than would be afforded at the DeForest or Sixth Street sites.	---	○
<b>Amphibians and Reptiles:</b>				
Southwestern Pond Turtle <i>Clemmys marmorata pallida</i>	SC/CSC	This species breeds and forages in perennial watercourses with ample pool habitats, and basking sites. It generally prefers watercourses with pools 2 or more feet deep.	Not recently recorded on the lower Los Angeles River; may be limited by preponderance of exotics including red-eared sliders. Focused surveys at Dominguez Gap for this species were negative.	○
San Diego Horned Lizard <i>Phrynosoma coronatum blainvillei</i>	SC/CSC	This species occupies coastal sage scrub and chaparral and other open habitats, including sandy washes. It prefers areas with friable, rocky, or shallow sandy soils. It would not be likely to colonize the area given the lack of nearby intact habitat.	Detections have been documented on CNDDDB records in Long Beach for City Park, junction of 4 <sup>th</sup> and Daisy Streets, 68 <sup>th</sup> Street, Hartwell Park, along Sang Gabriel River near 7 <sup>th</sup> Street in 1986. One detection has been recorded at the junction of Rosecrans Ave and Southern Pacific Railroad in the City of Compton and on Seal Beach in 1986.	●

TABLE 3-5

Special-Status Species Historically or Recently Recorded in the Regional Vicinity of the Lower Los Angeles River\*

Species	Status	Habitat Requirements	Recent Occurrence Records	Potential Occurrence on Project Site*
California Red-Legged Frog <i>Rana aurora draytonii</i>	FT/CSC	Highly aquatic. Prefers shorelines with extensive vegetation. Inhabits quiet pools of streams, marshes, and sometimes ponds. It may range in uplands, or aestivate in dense vegetation, leaf litter, or burrows when not in breeding watercourses. It has been extirpated from the lower Los Angeles River watershed and would not be expected to recolonize with the large population of bullfrogs in the area.	---	○
Two-Striped Garter Snake <i>Thamnophis hammondi</i>	SC/CSC	Highly aquatic species, found in or near permanent and ephemeral fresh water, often in streams with rocky beds and riparian vegetation. It is sensitive to the presence of bullfrog. There is limited potential for recolonization by this species.	---	●
<b>Mammals:</b>				
Pacific Pocketmouse <i>Perognathus longimembris pacificus</i>	FE/CSC	This species seems to prefer fine alluvial sands near the ocean, but its habitat is not well known. The presence of feral cats would likely preclude the colonization by this species on the Project site.	Historical CNDDB records have been documented for the Wilmington area of Los Angeles in 1865. Generally considered extirpated from regional vicinity. Not likely to occur.	○
<b>Fish:</b>				
Santa Ana Sucker <i>Catostomus santaanae</i>	FPT/CSC FS:Sensitive	This species is endemic to the Los Angeles Basin coastal streams. It is a habitat generalist, but prefers sand, cobble, or boulder bottoms and cool, clear water with ample algae growth.	Nearest known records in the Tujunga Wash upstream in the watershed. The existing aquatic habitat at the DeForest and Sixth Street sites would not support this species.	○
Arroyo Chub <i>Gila orcutti</i>	CSC FS:Sensitive	This species occurs in permanent watercourses, especially in slow-moving streams with mud and sand bottoms; it feeds heavily on invertebrates associated with dense, aquatic vegetation.	Not considered extant on the lower Los Angeles River, but recently documented by CH2M HILL and others in Sepulveda Basin. The preponderance of exotic species and lack of flowing stream habitat indicate the species is not likely to occur on the Project site.	○

TABLE 3-5

Special-Status Species Historically or Recently Recorded in the Regional Vicinity of the Lower Los Angeles River\*

Species	Status	Habitat Requirements	Recent Occurrence Records	Potential Occurrence on Project Site*
<b>Insects:</b>				
Monarch Butterfly <i>Danaus plexippus</i>		Requires roosts that are located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	CNDDDB records indicate that this species was detected at Heartwell Park in Long Beach in 1997 and 1989. Detections were also recorded at El Dorado Nature Center in Long Beach in 1990, 1991, 1995, and 1997. Additional detections have been documented at Gum Grove Park in Seal Beach in 1990, 1991, 1992, 1993, 1995, and 1997.	●
<b>Plants:</b>				
Davidson's Saltscale <i>Atriplex serenana</i> var. <i>davidsonii</i>	CNPS:1B	This species can be found in coastal scrub and coastal bluff scrub habitats with an alkali soil component.	According to incomplete CNDDDB records, this species was detected in the City of San Pedro at UTM: N3733474 E381422.	●
South Coast Saltscale <i>Atriplex pacifica</i>	SC/CNPS:1B	Occurs on playas, coastal scrub, and coastal bluff scrub habitats with alkali soils.	According to incomplete CNDDDB records, this species was detected in the City of San Pedro at Universal Transverse Mercator (UTM) coordinates: N3733474 E381422.	●
Parish's Britttlescale <i>Atriplex parishii</i>	SC CNPS:1B	This species occurs in alkali meadows, vernal pools, and chenopod scrub. This plant is generally considered extirpated in this general region.	---	○

TABLE 3-5

Special-Status Species Historically or Recently Recorded in the Regional Vicinity of the Lower Los Angeles River\*

Species	Status	Habitat Requirements	Recent Occurrence Records	Potential Occurrence on Project Site*
Southern Tarplant <i>Hemizonia parryi</i> ssp. <i>australis</i>	SC CNPS:1B	This species occurs in marshes and swamp margin, valley and foothill grasslands, and vernal pools in Southern California. It seems to prefer disturbed sites near the coast, sometimes in alkali soil with salt grass.	According to CNDDDB records the southern tarplant was detected at the Harbor Lake Regional Park marsh in 1991, near Long Beach State University in 1973, west of the junction of Loynes Drive and Studebaker Avenue in 1997, north of Gum Grove Park in Seal Beach in 1996, and at Bixby Ranch oil field property in Los Alamitos in 1997.	●
Coulter's Goldfield <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	SC/CNPS:1B	This species occurs on coastal salt marshes, playas, valleys, and foothill grassland and vernal pools.	CNDDDB records indicate the most recent record occurring in 1949 at the Anaheim Bay Marsh in Seal Beach.	○
Brand's Phacelia <i>Phacelia stellaris</i>	CNPS:1B	This species can be found in Southern California in open areas with coastal scrub and coastal dune habitats. This plant is generally considered extirpated in this general region.	According to incomplete CNDDDB records, Brand's phacelia was detected in the City of Downey at UTM: N3756128 E395113.	○
Salt Spring Checkerbloom <i>Sidalcea neomexicana</i>	CNPS:2	This species occurs on alkali playas, brackish marshes, chaparral, coastal scrub, lower montane coniferous forest, and Mojavean desert scrub habitats.	CNDDDB records have documented occurrences near the northwest intersection of Bryant Avenue and Hansen Road in 1936.	●

**Key:**Federal Listing

FE Federally Endangered  
 FT Federally Threatened  
 FPE Proposed Endangered  
 FPT Proposed Threatened  
 SC Species of Concern  
 FS Forest Service

State Listing

C Candidate  
 SE State Endangered  
 ST State Threatened Concern  
 SR State Rare  
 CSC DFG Species of Special Concern

TABLE 3-5

Special-Status Species Historically or Recently Recorded in the Regional Vicinity of the Lower Los Angeles River\*

Species	Status	Habitat Requirements	Recent Occurrence Records	Potential Occurrence on Project Site*
<ul style="list-style-type: none"><li>● Extant in regional vicinity with potential to occur on the Project site</li><li>◐ Extant in isolated occurrences or scattered distribution in regional vicinity with limited potential to occur on the Project site</li><li>○ Extirpated in regional vicinity with low or no likelihood to occur on the Project site</li></ul>				

\* Regional vicinity is loosely defined as the lower Los Angeles Basin; generally consisting of the coastal plain and coastal areas from Palos Verdes Peninsula to western Orange County, north to Glendale Narrows, or the lower foothills surrounding the basin.



#### 3.4.1.4 Special-Status Animals

A number of special-status fish and wildlife species have the potential to occur in or near the proposed Project site. This includes: birds, Cooper's hawk (*Accipiter cooperi*), Sharp-shinned hawk (*Accipiter striatus*), Burrowing Owl (*Athene cunicularia*), least Bell's vireo (*Vireo bellii pusilus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and peregrine falcon (*Falco peregrinus anatum*); amphibians and reptiles, California red-legged frog (*Rana aurora draytonii*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), southwestern pond turtle, and two-striped garter snake (*Thamnophis hammondi*); and mammals, Pacific pocket mouse (*Perognathus longimembris pacificus*); fish, arroyo chub (*Gila orcutti*), and Santa Ana sucker (*Catpistomus santaanae*).

Of these species, most are presumed to be extirpated from the vicinity of the proposed Project site. The San Diego horned lizard was not observed but may occur onsite. Peregrine falcons are resident nesters in the port environment in Long Beach and may occasionally forage in wetland environments along the Los Angeles River. No native fish are anticipated in the Project area.

##### Birds

**Least Bell's vireo** is listed as federally endangered. It breeds exclusively in dense riparian areas, and is associated with willow, cottonwood, or mulefat. There is currently a lack of intact riparian habitat which would support this species on the proposed Project site.

**Southwestern willow flycatcher** is a California and federally endangered species. This species is generally restricted to riparian woodlands along streams and rivers with dense stands of willows, cottonwoods, or smaller spring fed or boggy areas with willows or alders (*Alnus* spp.). The riparian habitat on the proposed Project site is generally too fragmented and limited in extent to support this species, and it would not be anticipated to occur.

**The Western Burrowing owl** is a California and federal species of concern. It forages in agricultural fields and other open areas and nests in underground burrows. Although intensive development makes the habitat marginally suitable for nesting, burrowing owls may find nesting opportunities along the berms and levees. Burrowing owls or burrows were not observed in the field surveys of the site, but they may use degraded urban environments in open grasslands or fields. Although no active nest sites appeared in the CNDDDB records and no owl sign was observed during reconnaissance-level surveys of the proposed Project area, additional nesting-season surveys should be conducted in potentially suitable areas.

##### Amphibians and Reptiles

**California red-legged frog** is federally threatened. It inhabits quiet pools in streams, marshes, and ponds and can be found in riparian uplands when not in breeding watercourses. It is out-competed and preyed upon by bullfrogs and would not be expected to occur in the proposed Project site because of the large population of bullfrogs on the lower Los Angeles River. It is generally considered extirpated from the lower River.

**Southwestern pond turtle** is a California species of concern and the only native freshwater turtle in the Pacific Coast states. It is highly aquatic and associated with riparian habitat including streams, rivers, sloughs, ponds, and artificial water bodies. Southwestern pond turtles are not known to occur within the proposed Project site. Previous surveys for this species have occurred in the Dominguez Gap basins; during surveys, red-eared sliders were identified in abundance, but no southwestern pond turtles were detected. The non-native slider generally out-competes the pond turtle, and the pond turtle is unlikely to occur in the Project site.

### Fish Species

***Santa Ana sucker*** is endemic to the Los Angeles Basin coastal streams; it is federally threatened. The lack of natural watercourses limits the occurrence of this species near the proposed Project site, and it would not be expected to colonize in Dominguez Gap.

***Arroyo chub*** occurs in natural or naturalized water courses in parts of the Los Angeles River system. It requires cool, flowing water and gravel or sandy substrates to breed. It has not been recorded in the developed lower portion of the River and would not be expected to occur in the proposed Project site.

#### 3.4.1.5 Clean Water Act and Fish and Game Code

Section 401 of the Clean Water Act (CWA) gives the State Water Resources Control Board (SWRCB) jurisdiction for regulating discharges of fill and dredged material to waters of the United States, including wetlands, through the Water Quality Certification Program. The Water Quality Certification Program is administered by the applicable Regional Water Quality Control Board (RWQCB). For the proposed Project, the Los Angeles RWQCB (Region 4) is the administering authority.

Section 404 of the CWA gives the U.S. Army Corps of Engineers (USACE) jurisdiction for regulating discharges of fill and dredged material to waters of the United States, including wetlands, through the 404 Permit Process.

Section 1600 of the California Fish and Game Code gives the California Department of Fish and Game (CDFG) jurisdiction for regulating activities occurring within the bed and bank of a river, stream, or lake, through the Lake or Streambed Alteration Agreement approval process.

#### Jurisdictional Waters of the United States Including Wetlands

No jurisdictional wetlands or waters of the United States are present on the East, West, and Market Street Basins. Degraded marsh and riparian areas occur on site; however, the East, West, and Market Street Basins are owned and operated by DPW and were constructed for stormwater detention and infiltration for flood management and groundwater recharge. Therefore the East, West, and Market Street Basins are not jurisdictional under Section 404 and 401 of the CWA.

#### Stream Bed and Bank Under Section 1600 Jurisdiction

The East, West, and Market Street Basins are owned and operated by DPW and were constructed for stormwater detention and infiltration for flood management and groundwater recharge. Therefore, the East, West, and Market Street Basins are not CDFG jurisdictional under Section 1600 of the California Fish and Game Code.

### 3.4.2 Impacts

This section describes the methods used to analyze potential impacts of the proposed Project to biological resources, potential impact mechanisms, and mitigation measures. Potential direct and indirect impacts to biological resources were evaluated to determine the temporary and permanent effects of the proposed Project construction, operation, and maintenance.

#### 3.4.2.1 Thresholds of Significance

Analysis of impacts of the proposed Project was based on evaluation of the effects to existing biological resources that would result from construction and operation of the

proposed Project. Significance criteria for impacts to biological resources were developed from the CEQA Checklist to evaluate potential environmental impacts of the proposed Project. Impacts to biological resources would be considered significant if construction or operation of the proposed Project would do the following:

- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pools, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites

Other significance criteria identified in the CEQA Checklist were evaluated in the Initial Study for the proposed Project, which is included in Appendix A. The proposed Project was determined to have no impact associated with these other significance criteria for the following reasons: (1) The proposed Project would not conflict with any local policies or ordinances protecting biological resources; and, (2) The proposed Project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

### 3.4.2.2 Evaluation

Implementation of the proposed Project would include the following activities which could potentially impact the existing biological resources.

- Temporary staging of heavy equipment, fuel, and supplies, and storage of topsoil.
- Temporary excavation, grading, and placement of topsoil from or in the existing basins.
- Temporary operation of equipment to construct internal perimeters, levees, trails, signage, and grading and excavation of channels.
- Installation of drainage and other water-control infrastructure.
- Planting of native plant communities and installation of irrigation system.
- Ongoing management and maintenance activities necessary to maintain target habitats (e.g., activities associated with controlling invasive plant species), maintain operation and integrity of infrastructure (water drainage, floatable material removal, and control structures), and control mosquito populations.

It is anticipated that the proposed Project would require, at a minimum, the same activities for operation and maintenance as is currently undertaken at the proposed Project site. In addition, ongoing operation and maintenance of the proposed Project would include the following activities:

- Pruning of vegetation near trails to maintain access and ensure public safety
- Re-grading of trails and/or resurfacing or repairing as needed
- Periodic sediment removal from open water areas
- Periodic drying, and ripping of the West Basin bottom to maintain groundwater recharge
- Control of invasive species through mechanical or chemical means
- Actions to maintain plant health including tilling, staking, fencing, replacing, and other necessary actions
- Trash removal from trash booms and throughout the site, as needed
- Repair and replacement of signage, gates, and any other structural elements
- Actions to control vectors, as needed, including application of larvicide, introduction of mosquito fish, and rodent or feral animal trapping
- Actions to monitor habitat establishment and site performance including transect measurements, water quality sampling, and soil sampling

In addition, operation and maintenance would involve monitoring and maintaining the habitats, maintenance of trails, a higher level of trash and debris and periodic sediment removal from open water areas.

It is assumed that habitat-monitoring visits would occur up to once a month with more frequent visits during the first few months to ensure plant establishment. Habitat maintenance visits would occur at a similar frequency and would involve a few laborers to control invasive species, maintain plant health, and replace plants as needed.

## Construction

### *Existing Vegetation and Wildlife Habitats*

Construction of the proposed Project would generally remove all existing native and non-native habitats on the East, West, and Market Street Basins by clearing, grubbing, and earth moving activities. This would include removal of the non-native woodland within the Market Street Basin, ruderal habitats within all the basins, and emergent marsh and willows within the East and West Basins. Some of the existing riparian woodland and native trees within the northern segment of the Market Street Basin would be preserved. The quality of the land as wildlife habitat is marginal but could be used seasonally by foraging birds and small mammals. Because the existing vegetation communities are degraded, the potential impact of removing them would be less than significant. Furthermore, because the degraded existing vegetation communities would be replaced with high-quality riparian and wetland habitats, the net impact from the proposed Project on vegetation and wildlife would be beneficial. The restored native habitats are expected to support a variety of native plants and wildlife, and provide preferred habitat over the existing non-native or degraded native habitats.

### *Jurisdictional Waters of the United States Including Wetlands*

No jurisdictional wetlands or waters of the United States are present on the East, West, and Market Street Basins. Degraded marsh and riparian areas occur on site; however, the East, West, and Market Street Basins are owned and operated by DPW and were constructed for stormwater detention and infiltration for flood management and groundwater recharge.

Currently the East, West, and Market Street Basins are not jurisdictional under Section 404 and 401 of the CWA.

Improvements to the proposed Project include the addition of a diversion structure to bring flow from the River to the Market Street Basin to provide a supplemental source of water for the proposed wetlands. The structure would consist of a rectangular concrete box buried underneath the bed of the River, adjacent to the low flow channel. The River is considered a jurisdictional water of the United States, therefore, the proposed Project would require a Section 404 Permit from the USACE and a Section 401 Water Quality Certification from the RWQCB, under the CWA. The temporary construction impact area to the jurisdictional water of the United States was calculated and is approximately 0.25 acres. Based on the concrete improved River bed, this area of proposed construction would have no significant impacts to biological resources. Access to the River for construction would be from the existing maintenance ramp.

Construction activities occurring within the River may cause sediment to be washed into surface waters which could temporarily impact water quality. Potential impacts are evaluated in Section 3.7, Hydrology and Water Quality, and appropriate mitigation is recommended.

#### *Stream Bed and Bank Under Section 1600 Jurisdiction*

The East, West, and Market Street Basins are owned and operated by DPW and were constructed for stormwater detention and infiltration for flood management and groundwater recharge. Currently the East, West, and Market Street Basins are not CDFG jurisdictional under Section 1600 of the California Fish and Game Code.

Improvements to the proposed Project include the addition of a diversion structure to bring flow from the River to the Market Street Basin to provide a supplemental source of water for the proposed wetlands. The structure would consist of a rectangular concrete box buried underneath the bed of the River, adjacent to the low flow channel. Alterations to the bed and bank of the River would require a Stream Bed Alteration Agreement from CDFG under Section 1600 of the California Fish and Game Code. The temporary construction impact area to the CDFG jurisdictional area was calculated and is approximately 0.25 acres. Based on the concrete improved River bed, this area of proposed construction would have no significant impacts to biological resources. Access to the River for construction would be from the existing maintenance ramp.

Construction activities occurring within the River may cause sediment to be washed into surface waters, which could temporarily impact water quality. Potential impacts are evaluated in Section 3.7, Hydrology and Water Quality, and appropriate mitigation is recommended.

#### *General Impacts to Wildlife*

Removal of non-native or degraded native habitats may result in direct mortality to wildlife using the site, including breeding birds, or resident mammals, amphibians, and reptiles. Impacts to special-status wildlife are addressed below. The loss of active bird nests or young would be regulated under the federal Migratory Bird Treaty Act and other state regulations, and would represent a significant adverse impact, requiring mitigation. The loss of common wildlife from construction of the site would not represent a significant adverse impact, as these species are regionally common, and are expected to recolonize the site after restoration of the habitats.

### ***Special-Status Plant Species***

The proposed Project site does not support quality habitat for any special-status plant species; however, some limited potential for occurrence of special-status plants may exist. The loss of populations of special-status plants, if present, would represent a significant impact, requiring mitigation. Focused surveys for rare plants are proposed prior to ground disturbing activities to determine whether rare plants are present on the site.

### ***Breeding Special-Status Birds***

The site is not expected to support breeding by federally listed bird species, including least Bell's vireo or southwestern willow flycatcher. As such, no impacts to these species from the proposed Project are anticipated.

There is limited potential for the site to support breeding Cooper's hawk, yellow warbler, loggerhead shrike, burrowing owl, and other special-status bird species. The loss of nests or individuals of these species would represent a significant adverse impact, requiring mitigation.

### ***Transient Special-Status Birds***

Some special-status birds may forage in the proposed Project site, including Cooper's hawk, peregrine falcon, or yellow warbler. The construction activities would temporarily render the site unusable by these species. However, there is currently limited quality habitat available for these species, and with completion of the proposed Project, the habitat quality for these species will greatly improve, resulting in a net beneficial impact to these species.

### ***Other Special-Status Wildlife***

Some other special-status wildlife species may be present on the proposed Project site, including coast horned lizard, and two-striped garter snake. Because habitat is marginal for these species, and because their populations have been severely reduced in the lower Los Angeles Basin area, there are not likely to be substantial populations of these species on the proposed Project site. As such, the potential impacts from the proposed Project are anticipated to be less than significant.

Potential exists for wintering colonies of monarch butterflies on the proposed Project site within sheltered trees. However, no roost trees have been observed during field surveys nor otherwise reported. These sites are generally well-documented and would have been observed in the frequently visited basins. As such, roost trees for wintering butterflies are presumed absent, and no impact is anticipated.

### ***Noise and Lights from Construction and Safety***

The proposed Project site is adjacent to developed areas with standard lighting and significant noise. Harassment could result from noise and construction activities that temporarily prevent wildlife from foraging and nesting. Noise or other proposed Project-related activities could disturb wildlife using the site. Generally, this impact is anticipated to be less than significant, as it would be short term in duration and would only affect the relatively degraded habitats currently onsite.

Bright night lighting could disturb wildlife (e.g., nesting birds, foraging mammals, and flying insects). To avoid this impact, safety lighting would be directionally shaded and/or pointed toward the ground to minimize impacts to wildlife.

## Operation

### *General*

Wetland and riparian habitats are expected to increase under the restoration alternatives. Development of these areas would substantially increase the area of suitable waterfowl nesting habitat. Based on results from nearby habitat restoration projects in the vicinity of Dominguez Gap, a number of desirable wetland and riparian bird species will colonize the area after habitat is restored. This may include breeding least bittern (*Ixobrychus exilis*), tricolored blackbird (*Agelaius tricolor*), ruddy duck (*Oxyura jamaicensis*), blue grosbeak (*Guiraca caerulea*), downy woodpecker (*Picoides pubescens*), and loggerhead shrike (*Lanius ludovicianus*). This impact is considered beneficial.

### *Jurisdictional Waters of the United States and Stream Bed and Bank*

There would be no permanent impacts to jurisdictional waters or to the bed or bank of the River because all of the structures would be under the bed of the River as water would flow through a screen flush with the side of the low-flow channel.

### *Vector Breeding and Colonization*

Surface flow treatment wetlands designed solely for water quality improvements may have potential for providing areas conducive to mosquito breeding. However, multipurpose treatment wetlands similar to the proposed Project often incorporate design features that are not favorable for mosquito breeding (Gerke, 2005; included herein as Appendix D). Such features include deep, open water areas, diverse vegetation, and the ability to rapidly dewater vegetated areas. Open water areas are not likely to support mosquito production, but will support fish and aquatic invertebrates that assist in controlling mosquito populations. The majority of mosquitoes will exploit heavily vegetated littoral zones that are designed such that they permit relatively easy access for mosquito monitoring and control agents.

Mosquito populations in treatment wetlands typically increase as water quality and flow velocity decrease and vegetative cover increases (Walton, 2002). Design of the wetlands includes multiple habitats that will create a diverse assemblage of plant and animal species. This diversity coupled with an active vegetation management plan will minimize mosquito breeding habitat. The proposed hydraulic loading rates and promotion of plug flow hydraulics will provide sufficient flow velocities to minimize stagnant water in the treatment wetlands, also minimizing mosquito breeding habitat. These design features coupled with an active larval monitoring and control program will likely result in the proposed Project facilities posing no greater mosquito threat than existing natural wetlands (Davis, 1984; Carlson and Knight, 1987). In short, the proposed Project is not expected to cause a net change in current populations of mosquitoes and other nuisance organisms when compared to existing basin land uses (irrigated turf areas, unmanaged areas of the Los Angeles River, uncontrolled tributaries to the Los Angeles River, golf course drainages, existing degraded wetlands, storm drains, and other water bodies).

Specific measures to reduce potential impacts from mosquito populations can be found in the Vector Management Plan (Gerke, 2005) (Appendix D). The Vector Control Plan will be implemented as a part of the Proposed Project. With implementation of the Vector Control Plan, mosquito or other nuisance insect production is not likely to increase above existing baseline conditions, and the impact from this on surrounding land uses is expected to be less than significant.

### 3.4.3 Mitigation Measures

Mitigation measures for impacts to biological resources were recognized in Section 3.4.2.2. These mitigation measures would be included as part of the proposed Project. Specifically, Mitigation Measures BR-1 through BR-5 have been identified to help reduce construction-related biological resources impacts.

#### 3.4.3.1 Construction

BR-1 A worker awareness handout would be provided to all onsite personnel. The handout would specify sensitive biological resources, protection measures, and individual responsibilities. The handout would also identify appropriate contact procedures and personnel information should sensitive biological resources be encountered.

BR-2 Vegetation would not be cleared until June 15 (if feasible) when the young have fledged the nest, to avoid impacts to breeding birds. This would serve to avoid impacts to all breeding birds, including special-status birds such as Cooper's hawk or yellow warbler.

BR-3 To ensure that there are no impacts to special-status species, rare plant surveys of the affected area would be conducted prior to initiation of construction activities. If rare plants are identified, it would be determined if Project activities could be conducted to avoid impacts. If Project activities could not avoid impacts to rare plants, such impacts would be minimized or mitigated through plant relocation (if feasible) or topsoil and seed bank protection. Residual impacts would be less than significant.

BR-4 Preconstruction surveys for burrowing owl would be conducted according to California Department of Fish and Game requirements to determine whether any habitat in construction areas is occupied by burrowing owl. If burrowing owls are identified during the preconstruction surveys, impacts would be avoided by restricting construction activities within 150 feet during non-breeding season or 250 feet of active burrowing owl nest burrows during breeding season (February 1 through August 31). If construction cannot be restricted, passive relocation would occur. Residual impacts would be less than significant.

BR-5 To minimize potential impacts to areas used as forage by migratory birds and raptors, the following measures would be implemented:

- Infrastructure design including trail and lighting would be sited in previously disturbed areas, when feasible.
- Safety lighting would be directional or pointed downward to reduce affects on wildlife.
- Implement Mitigation Measure BR-2.

#### 3.4.3.2 Operation

No significant adverse biological resource impacts were identified as a result of Project operation; therefore, no mitigation measures are required.

### 3.4.4 Significance After Mitigation

With implementation of the above mitigation measures, potentially significant adverse impacts to biological resources would be reduced to less-than-significant levels.



## 3.5 Geology and Soils

### 3.5.1 Setting

#### 3.5.1.1 Environmental Setting

The proposed Project is located in a seismically active region of Southern California. Regional active faults that could produce considerable ground shaking at the site include the Newport-Inglewood Fault, the Palos Verdes Fault, the Elysian Park Fault, and the Whittier-Elsinore Fault. The nearest fault to the proposed Project is the Newport-Inglewood Fault. Specifically, the proposed Project is located within and adjacent to the Dominguez Gap, which is a relatively narrow break in the ridge of uplift along the Newport-Inglewood Uplift. The Newport-Inglewood Uplift is a northwest-southeast trending feature that forms the boundary between the East Basin and West Basin of the Dominguez Gap Spreading Grounds.

Silts and clays dominate the soil surface at the proposed Project site. Beneath the silts and clays, the soil is comprised of Pleistocene-age marine sands and gravels which allow for the area to function as a groundwater aquifer (KOMEX, 2003).

#### 3.5.1.2 Regulatory Setting

The California Department of Conservation, California Geological Survey provides information and guidance regarding seismic hazards. Under the California Geological Survey's Seismic Hazards Mapping Act, seismic hazard zones are to be identified and mapped to assist local governments in planning and development purposes. The intent of this is to protect the public from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes.

Building and construction within the City of Long Beach are subject to the regulations of the City of Long Beach Municipal Code. Municipal Code Chapter 18.24, Building Codes, adopts and incorporates by reference the California Building Code, Volumes I and II, 2001 edition. This Municipal Code chapter includes amendments and modifications to the California Building Code that are specific to the City of Long Beach. The California Building Code in turn incorporates provisions of the Uniform Building Code (UBC), which contains seismic design criteria and grading standards.

The City of Long Beach adopted the Seismic Safety Element of the General Plan in October 1988. The purpose of this element is to provide a comprehensive analysis of seismic factors in order to reduce the loss of life, injuries, damage to property, and social and economic impacts resulting from future earthquakes. The Seismic Safety Element contains goals and recommendations that provide guidance for development in seismically active areas. Specifically, the Seismic Safety Element contains the goals of: (1) reducing public exposure to seismic risks; (2) providing an urban environment which is as safe as possible from seismic risk; and (3) providing the maximum feasible level of seismic safety protection services.

### 3.5.2 Impacts

#### 3.5.2.1 Thresholds of Significance

Significance criteria for impacts to geology and soils were developed from the CEQA Checklist to evaluate potential environmental impacts of the proposed Project. The

proposed Project would have a significant impact on geology and soils if it would do the following:

- Result in substantial soil erosion or loss of topsoil
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse

Other significance criteria identified in the CEQA Checklist were evaluated in the Initial Study for the proposed Project, which is included in Appendix A. The proposed Project was determined to have no impact associated with these other significance criteria for the following reasons: (1) The proposed Project would not expose people or structures to potential substantial adverse effects, including risk of loss, injury, or death due to rupture of a known earthquake fault, seismic-related ground shaking or failure (including liquefaction), or landslides; (2) Excavation compaction would be placed to meet standard engineering design requirements and would not result in an expansive-soil impact; and, (3) No septic tanks or alternative wastewater disposal systems would serve the proposed Project.

### 3.5.2.2 Evaluation

#### Soil Erosion

During construction, excavation and grading activities would uncover soils. The temporary creation of areas of exposed soils could temporarily result in soil erosion or loss of topsoil that would have potentially significant impacts. Mitigation Measure GS-1 has been identified to reduce potential impacts to soil resources to less-than-significant levels.

No impacts to soil resources are anticipated during routine operation and maintenance of the proposed Project.

#### Geologic Instability

Liquefaction generally occurs in areas of high seismicity where groundwater is shallow and loose granular soils or hydraulic fill soils are present. Because the proposed Project is located within the regional vicinity of active faults, within the unconsolidated Los Angeles River floodplain, and on a groundwater recharge area, soil instability, including liquefaction, could potentially occur at the proposed Project site. The proposed Project consists of a multipurpose wetland development and its implementation includes modest improvements to the existing uses of the area. These improvements would not contribute to greater geologic instability or the effects of geologic instability. Additionally, the proposed Project does not include any permanent occupied structures. Therefore, construction and operation of the proposed Project would not adversely contribute to geologic instability.

### 3.5.3 Mitigation Measures

Soil erosion control measures during construction were recognized in Section 3.5.2.2. These soil erosion control measures would be included as part of the proposed Project. Specifically, Mitigation Measure GS-1 has been identified to help reduce construction-related soils impacts.

#### 3.5.3.1 Construction

GS-1 One or more of the following measures to control soil erosion or loss of topsoil would be implemented:

- The area disturbed by clearing, grading, earth-moving, or excavation operations would be as small as feasible to prevent excessive dust.
- Pregrading/excavation activities would include watering the area to be graded or excavated before commencement of grading or excavation. Application of water would penetrate sufficiently to minimize fugitive dust during grading activities.
- Trucks would be required to have their loads covered going offsite.
- Graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved onsite roadways, would be treated to prevent fugitive dust. Treatment would include, but not be limited to, periodic watering and/or roll compaction as appropriate. Watering would be done at least twice daily.
- Inactive graded and/or excavated areas would be monitored at least weekly for dust stabilization. Soil stabilization methods, such as water and roll-compaction, would be periodically implemented over portions of the construction site that are inactive for over 4 days.
- During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), clearing, grading, earth-moving, and excavation operations would be curtailed to the degree necessary to prevent fugitive dust created by onsite activities and operations from being a nuisance or hazard to offsite properties.
- Adjacent streets and roads would be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.

#### 3.5.3.2 Operation

No significant adverse geology and soils impacts were identified as a result of Project operation; therefore, no mitigation measures are required.

#### 3.5.4 Significance After Mitigation

With implementation of the above mitigation measure(s), potentially significant adverse impacts to soil resources would be reduced to less-than-significant levels.

### 3.6 Hazards and Hazardous Materials

#### 3.6.1 Setting

The existing facilities at the proposed Project site include the Dominguez Gap Spreading Grounds and the Market Street Basin, which are operated by DPW. Most of the proposed Project site is east of the River and is bound by DeForest Park at the north and the Metro Blue Line at the south. The southern most-segment is west of the River and is bound by the Metro Blue Line at the north and extends approximately 2,000 feet south towards Interstate 405.

The proposed Project is designated as Open Space and Park in the City of Long Beach General Plan. Surrounding land uses include single-family residential, mixed-density residential, high-density residential, and public right-of-way. Public right-of-way includes area used by the County of Los Angeles Department of Public Works, City of Long Beach, California Department of Transportation, Metropolitan Transportation Authority, and Union

Pacific Railroad. The proposed Project is within the jurisdiction of the City of Long Beach Fire Department.

A review of the most recent Department of Toxic Substances Control, Hazardous Waste and Substances Site List (Cortese List), determined that no known significant hazardous material sites occur within the proposed Project site. Additionally, an American Society for Testing and Materials (ASTM) electronic record search of the Market Street Basin was completed for the DeForest Nature Center and Sixth Street Sites Wetland Feasibility Study (CH2M HILL, 2002). Using ASTM search parameters, the electronic record search identified 97 sites of environmental significance within the ASTM standard search distance. None of these identified sites are located in the Market Street Basin.

## 3.6.2 Impacts

### 3.6.2.1 Thresholds of Significance

Impacts related to hazards and hazardous materials would be considered significant if the proposed Project would expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Other significance criteria identified in the CEQA Checklist were evaluated in the Initial Study for the proposed Project, which is included in Appendix A. The proposed Project was determined to have no impact associated with these other significance criteria for the following reasons: (1) The proposed Project is not anticipated to generate any substantial quantities of hazardous materials; (2) Potential release of hazardous materials into the environment from storm drains that flow to the proposed Project site would not be created by the proposed Project; (3) The proposed Project is not anticipated to generate a substantial amount of hazardous emissions or handle acutely hazardous materials, substances, or waste; (4) No known significant hazardous material sites occur within the proposed Project site; (5) The proposed Project is not located within an airport land use plan and no private airstrips are within the vicinity; and (6) Public roads adjacent to the proposed Project site will remain open during construction, and the contractor will be required to abide by local requirements set by the City of Long Beach and ensure sufficient access for emergency vehicles.

### 3.6.2.2 Evaluation

Part of the proposed Project is adjacent to open space and residential areas. The entire proposed Project area is adjacent to the River and much of the vegetation in the area is wetland vegetation, which is not very flammable. It is still possible that construction activities could start an accidental fire; however, the probability is low. Because of the wetland vegetation type and the location of the proposed Project adjacent to the River, the proposed Project would not substantially increase the risk of wildland fires. Additionally, the proposed Project does not involve the construction of residences adjacent to wildlands. Operation of the proposed Project would primarily consist of trash removal, removal of excess vegetative cover, monitoring, and general maintenance of the proposed Project. These operational activities would be of limited fire risk. Therefore, construction and operation of the proposed Project would not substantially increase the risk or exposure of people or structures to wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

### 3.6.3 Mitigation Measures

Because the proposed Project would not result in any hazards or hazardous materials impacts that are significant under CEQA criteria, no mitigation measures are required.

#### 3.6.3.1 Construction

None required.

#### 3.6.3.2 Operation

None required.

### 3.6.4 Significance After Mitigation

Not applicable.

## 3.7 Hydrology and Water Quality

### 3.7.1 Setting

#### 3.7.1.1 Environmental Setting

The proposed Project is located in the Los Angeles Basin, a broad geographic area in semi-arid Southern California. The Los Angeles Basin can be loosely characterized as the low elevation, urban developed areas within the Los Angeles River Watershed. The Los Angeles River Watershed covers a land area of over 2,070 kilometers squared (800 square miles), from the eastern portion of the Santa Monica Mountains, Semi Hills, and Santa Susana Mountains to the San Gabriel Mountains in the west. The watershed encompasses and is shaped by the path of the Los Angeles River, which flows from its headwaters in the mountains, south and east through the San Fernando Valley, south through the Glendale Narrows, and out into the relatively flat coastal plain to the river mouth in San Pedro Bay near Long Beach. Over its length, the river drops more than 2,133 meters (7,000 feet) from the San Gabriel and San Fernando Mountains to the valley and coastal plain below. Much of the coastal plain is below 240 meters (800 feet) elevation; the proposed Project itself is below 20 meters (65 feet) elevation. There are seven major tributaries to the Los Angeles River as it flows from its headwaters to the Pacific Ocean. The major tributaries include Burbank Western Channel, Pacoima Wash, Tujunga Wash, and Verdugo Wash in the San Fernando Valley; and the Arroyo Seco, Compton Creek, and Rio Hondo south of the Glendale Narrows.

The Los Angeles River, along much of its course, had intermittent flow during much of the year prior to channelization, and many of its tributaries did not reach the river except during storm events. The current low flow in the river is effluent dominated with approximately 80 percent of its flow originating from wastewater treatment plants, and the remaining flow coming from storm drain runoff and shallow groundwater discharging at the surface in the Glendale Narrows area.

#### Flood Control

The Los Angeles Basin's population, climate, and topography make for an environment that includes water supply issues, water quality degradation, flooding, habitat destruction, and a shortage of recreational areas and open space. To address problems caused by flooding

and urbanization, an elaborate system of flood control measures was implemented on the Los Angeles River by the USACE and DPW between 1914 and 1970.

In combination with the flood control measures on the nearby San Gabriel River Watershed, this constitutes the largest flood control system in the world. Included on both watersheds are over 160 kilometers (100 miles) of channel enlargement and reinforcement on the main rivers and their tributaries, 115 debris dams, 20 reservoirs, 32 groundwater recharge locations, and over 217 stabilization structures in over 47 sub-watersheds. The Los Angeles River has been transformed from a free-flowing meandering river to an efficient flood control structure by encasing its channel in reinforcement along 77.1 kilometers (47.9 miles) of its 82.1 kilometer (51 mile) length. There are three stretches where the channel is not lined with concrete reinforcement and include the areas: (1) within the Sepulveda Flood Control Basin, (2) through the Glendale Narrows, and (3) south of Willow Street in Long Beach.

#### Water Quality

The Los Angeles River Watershed has a number of water-quality impairments in the middle and lower parts of the watershed due to runoff from dense clusters of commercial, industrial, residential, and other urban areas. The 2002 303(d) list of impairments in the watershed at the Project area are due to point and nonpoint sources. These impairments include the following: pH, algae, scum, odors, ammonia, coliform, and a number of metals.

#### Hydrogeology

According to DWR Bulletin No. 104, the Project area is underlain by alluvial deposits of recent geologic age. In this area, these units are the Bellflower Aquitard and the Gaspar Aquifer. In the local area the Bellflower Aquitard extends from ground surface to approximately 20 feet below msl, and consists primarily of sandy and gravelly clay. Underlying the Bellflower Aquitard is the southern part of the Gaspar Aquifer. The Gaspar Aquifer has a base elevation of approximately 24.4 meters (80 feet) below msl and is under confined pressure due to the presence of the overlying Bellflower Aquitard. The Gage Aquifer directly underlies and is in good hydraulic contact with the Gaspar Aquifer in the Dominguez Gap area. The base of the Gage Aquifer is variable in this area, ranging from 80 to 130 feet below msl. Other aquifers beneath the site are the Hollydale, Lynwood, and Silverado Aquifers. These deeper aquifers are separated by unnamed aquicludes.

#### 3.7.1.2 Regulatory Setting

Pursuant to Section 402 of the CWA, the EPA has established regulations under the NPDES program to control municipal and industrial (including construction) stormwater discharge. The CWA requires NPDES permits for stormwater discharges to waters of the United States from construction projects that disturb land equal or greater to one acre. Additionally, the CWA requires NPDES permits for discharges to waters of the United States.

Section 401 of the CWA gives the SWRCB jurisdiction for regulating discharges of fill and dredged material to waters of the United States, including wetlands, through the Water Quality Certification Program. The Water Quality Certification Program and the NPDES program are administered by the applicable RWQCB. For the proposed Project, the Los Angeles RWQCB (Region 4) is the administering authority.

Section 404 of the CWA gives the USACE jurisdiction for regulating discharges of fill and dredged material to waters of the United States, including wetlands, through the 404 Permit Process.

Section 1600 of the California Fish and Game Code gives the CDFG jurisdiction for regulating activities occurring within the bed and bank of a river, stream, or lake, through the Lake or Streambed Alteration Agreement approval process.

### 3.7.2 Impacts

#### 3.7.2.1 Thresholds of Significance

Impacts related to hydrology and water quality would be considered significant if the proposed Project would do the following:

- Violate any water quality standards or waste discharge requirements
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion onsite or offsite
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

Other significance criteria identified in the CEQA Checklist were evaluated in the Initial Study for the proposed Project, which is included in Appendix A. The proposed Project was determined to have no impact associated with these other significance criteria for the following reasons: (1) The proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level; (2) The proposed Project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite; (3) The proposed Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; (4) The proposed Project would not otherwise substantially degrade water quality; (5) The proposed Project would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map; and (6) The proposed Project is located more than several miles from the Pacific Ocean and is relatively flat, and it is not likely that it would be inundated by a seiche, tsunami, or mudflow.

#### 3.7.2.2 Evaluation

##### Construction

##### *Surface Water*

During construction, short-term impacts to surface water quality could result from stormwater flow across the proposed Project site that would potentially result in substantial erosion. Changes in topography and the presence of excavated and/or unprotected soil could affect stormwater runoff. Mitigation Measure WR-1 has been identified to reduce potential impacts to surface water to less than significant.

No jurisdictional wetlands or waters of the United States are present on the East, West, and Market Street Basins. Degraded marsh and riparian areas occur onsite; however, the East, West, and Market Street Basins are owned and operated by DPW and were constructed for

stormwater detention and infiltration for flood management and groundwater recharge. Currently the East, West, and Market Street Basins are not jurisdictional under Section 404 and 401 of the CWA, or under Section 1600 of the California Fish and Game Code.

If surface water is present during construction within the East, West, and Market Street Basins, flows would be temporarily diverted within the proposed Project site and around areas where activities are occurring. In general, temporary diversion would include temporary placement of a sandbag bermed cofferdam upstream of activities and a pipe flume to bypass the activities. Surface water flows would be released downstream of activities within the proposed Project site. These temporary structures would not substantially impede or redirect flood flows and would not result in a significant adverse impact related to impeding or redirecting flows within a 100-year flood hazard area.

Improvements to the proposed Project include the addition of a diversion structure to bring flow from the River to the Market Street Basin to provide a supplemental source of water for the proposed wetlands. The structure would consist of a rectangular concrete box buried underneath the bed of the River, adjacent to the low-flow channel. The River is considered a jurisdictional water of the United States, therefore, the proposed Project would require a Section 404 Permit from the USACE and a Section 401 Water Quality Certification from the RWQCB, under the CWA. Additionally, alterations to the bed and bank of the River would require a Stream Bed Alteration Agreement from CDFG under Section 1600 of the California Fish and Game Code. The temporary construction impact area to the jurisdictional water of the U.S. was calculated and is approximately 0.25 acres. The temporary construction impact area to the CDFG jurisdictional area was calculated and is approximately 0.25 acres. Access to the River for construction would be from the existing maintenance ramp. Construction activities occurring within the River may cause sediment to be washed into surface waters of the United States, which could impact water quality. Mitigation Measure WR-2 has been identified to reduce potential impacts to surface water to less-than-significant levels.

Construction activities would generally not occur during periods of flooding. During the initial period at the beginning of a flood, the safety of construction personnel could be at risk, but this risk is not substantial because construction personnel would vacate the site at the early signs of a flood event.

#### *Groundwater*

Construction of the proposed Project would not result in significant adverse impacts to groundwater.

#### *Operation*

##### *Surface Water*

While the integrity of the natural drainage pattern would be preserved, some alterations may occur to provide conditions that best support the establishment and function of treatment wetlands. As described in the Project Description, regrading of the site would occur to create marsh habitat with alternating open water and emergent marsh for water quality improvement. Following construction, newly regraded banks could be subject to erosion. The establishment of treatment wetlands would protect the proposed Project area from substantial erosion or siltation, including erosion from stormwater flow, onsite or offsite. Operation of the proposed Project would not result in an impact to surface water quality.

The proposed Project includes a diversion structure to bring flow from the River to provide a supplemental source of water for the wetlands. The structure would consist of a rectangular concrete box buried underneath the bed of the River adjacent to the low flow channel.



Additionally, the proposed Project includes a structure to house a control valve which would be located on the east side of the River levee at an elevation higher than the maximum water level in the basin to ensure access to the valve in all conditions. The valve would provide control of the flow diversion to the proposed Project. The diversion structure would be operated to divert flows as needed to the proposed Project site. In this regard, these structures would not impede or redirect flows within a 100-year flood hazard area. Additionally, there would be no permanent impacts to jurisdictional waters or to the bed or bank of the River because all of the structures would be under the bed of the River as water would flow through a screen flush with the side of the low flow channel.

The proposed Project also includes a sump pump that would be added or modified in Dominguez Gap Spreading Grounds and at the Market Street Pump Station to discharge flow back to the River. An objective of the proposed Project includes improved water quality for groundwater recharge and Los Angeles River discharge. Because the natural processes of wetlands, and in particular treatment wetlands, generally improve water quality, the impacts associated with discharge of proposed Project water to the Los Angeles River would not result in a significant impact to surface water quality and would likely be a positive impact on water quality.

#### *Groundwater*

The Project Description states that groundwater recharge in the West Basin will be enhanced by spreading higher quality water and by performing additional operation and maintenance activities. The combined effects of spreading higher quality water and more frequent basin maintenance will enhance the average recharge rate of the West Basin. Operation of the proposed Project would not result in adverse impacts to groundwater resources or quality.

### **3.7.3 Mitigation Measures**

The mitigation measure outlined below has been identified to mitigate potentially significant impacts to surface water quality during construction. Following implementation of this mitigation measure, potentially significant adverse impacts would be reduced to less-than-significant levels.

#### **3.7.3.1 Construction**

WR-1 Prior to the initiation of ground disturbing activity, the DPW (or their designee) would obtain Project approval from the SWRCB under the NPDES General Permit for Discharges of Storm Water Associated with Construction Activity (General Permit). This includes submitting a Notice of Intent (NOI) to the SWRCB and developing and implementing a SWPPP. The SWPPP would identify the potential sources of sediment and other pollutants that may affect the quality of stormwater discharge, and would specify Best Management Practices (BMPs) to prevent or minimize the introduction of sediment and pollutants into surface waters from the Project site. BMP methods of erosion and sediment control may include straw bales, silt fences, and other control techniques. Monitoring and maintenance requirements would be specified in the SWPPP.

WR-2 Prior to the initiation of activities within the bed and bank of the River, the DPW (or their designee) would obtain Project approval from the RWQCB 401 Water Quality Certification; California Department of Fish and Game 1600 Streambed Alteration Agreement; and, USACE 404 Permit. These Project approvals would specify potential sources of sediment and other pollutants that may affect the quality of the River, and would specify BMPs to prevent or minimize the introduction of sediment and pollutants into surface

waters of the River. BMP methods of erosion and sediment control may include straw bales, silt fences, and other control techniques. Monitoring and maintenance requirements would be specified in these Project approvals. Vehicle maintenance and fueling would be restricted from areas within 50-feet of the bank of the River. Following construction within the River, the bed of the River would be returned to existing grade.

#### 3.7.3.2 Operation

No significant adverse impacts to hydrology and water quality have been identified as a result of operation of the proposed Project. Consequently, no mitigation measures are required.

#### 3.7.4 Significance After Mitigation

With implementation of the above mitigation measures, potentially adverse impacts to surface water quality resulting from Project construction would be reduced to less-than-significant levels.

### 3.8 Noise

#### 3.8.1 Setting

##### 3.8.1.1 Existing Noise Environment

The primary noise source in the proposed Project area is traffic on Interstate 710 (I-710). Other secondary noise generators in the proposed Project area include sporadic traffic on local roadways and occasional aircraft departures from Long Beach Airport, which fly over areas south of Del Amo Boulevard in the southern part of the proposed Project area. Based on the noise measurements performed in residential areas adjoining the proposed Project area, average background noise levels, in terms of Leq, range from 52 decibels (dBA) to 62 dBA during daytime hours, and 49 dBA to 57 dBA at night.

Background noise-level measurements were conducted at various locations in residential areas east of the proposed Project. Short-term (15-minute) measurements were performed during both daytime and nighttime hours at a total of five locations. The noise monitoring locations are shown in Figure 12. The daytime measurements were performed on Thursday, April 21, 2005, and nighttime readings were taken on Friday, April 22, 2005. Following are descriptions of each noise monitoring locations and the data obtained:

**Site 1** is between two homes located at 525 and 550 Devon Place, just west of Country Club Drive. This monitoring location represents the residential areas near the south end of the proposed Project. The predominant noise source in the area is distant traffic on I-710 and I-405.

**Site 2** is located in front of the home at 241 48th Street. This location represents the mobile homes just south of Del Amo Boulevard and single-family homes north of the country club. The main source of noise in this area is distant traffic on I-710. Occasional jet aircraft departures from Long Beach Airport also contribute to the background noise levels in this area.

**Site 3** is located at the northeast corner of DeForest Avenue and 51st Street, on west side of the home at 155 51st Street. The dominant noise source in this area is distant traffic on I-710.



# Noise Monitoring Location

**Figure 12**  
**Noise Monitoring Locations**



**Site 4** is located at the west terminus of Market Street, in front of home at 180 Market Street. Traffic on I-710 is the dominant source of background noise in this area.

**Site 5** is located near the east edge of DeForest Park, between 60th and 61st Street. This location is representative of the single-family homes and the park located near the north end of the Project. Dominant noise sources in this area include distant traffic on I-710 and State Route 91 (SR 91).

The noise-level measurement data obtained at the five short-term monitoring locations are summarized in Table 3-6.

TABLE 3-6  
Measured Existing Short-term Sound Levels (dBA) – April 21-22, 2005

Measurement Location	Time of Day	Sound Level				
		L <sub>eq</sub>	L <sub>min</sub>	L <sub>max</sub>	L50	L90
1	Day:	52.2	49.6	59.6	51.6	50.3
	Night:	42.4	39.4	46.8	41.8	40.2
2	Day:	57.1	49.8	71.9	53.9	52.1
	Night:	41.0	40.1	44.9	41.7	40.9
3	Day:	62.4	59.6	71.5	61.8	60.4
	Night:	46.4	43.4	53.8	46.2	44.0
4	Day:	57.9	55.9	61.4	57.8	56.5
	Night:	47.5	44.7	52.0	47.3	46.0
5	Day:	60.7	57.9	71.5	60.3	59.0
	Night:	54.6	52.8	56.3	54.5	53.3

## 3.8.2 Impacts

### 3.8.2.1 Thresholds of Significance

Impacts related to noise would be considered significant if the proposed Project would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
- A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project

Other significance criteria identified in the CEQA Checklist were evaluated in the Initial Study for the proposed Project, which is included in Appendix A. The proposed Project was determined to have no impact associated with these other significance criteria for the following reasons: (1) The proposed Project would not result in the exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels; (2) The proposed Project would have no impact associated with a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project; and (3) The proposed Project would not result in the exposure of people residing or working in the Project area to excessive aircraft noise levels or private airstrip noise impacts.

The applicable noise standards governing the Project site are the criteria in the City of Long Beach Municipal Code, Chapter 8.80, Noise. The City's Municipal Code outlines exterior noise limits, as summarized in Table 3-7. These standards generally apply to stationary sources of noise and are stated as the maximum permissible sound level that can be produced by a noise generator at a receiving property boundary.

TABLE 3-7  
City of Long Beach Exterior Noise Limits

Receiving Land Use District*	Time Period	Noise Level** (dBA)
District One	Night: 10:00 p.m.-7:00 a.m.	45
	Day: 7:00 a.m.-10:00 p.m.	50
District Two	Night: 10:00 p.m.-7:00 a.m.	55
	Day: 7:00 a.m.-10:00 p.m.	60
District Three	Any time	65
District Four	Any time	70
District Five	Regulated by other agencies and laws	
* District One:	Predominantly residential with other land use types also present	
District Two:	Predominantly commercial with other land use types also present	
Districts Three and Four:	Predominantly industrial with other land types use also present	
District Five:	Airport, freeways and waterways regulated by other agencies	

\*\* Districts Three and Four limits are intended primarily for use at their boundaries rather than for noise control within those districts.

The residential areas in the vicinity of the proposed Project are in District One of the City's noise districts. Noise levels generated by the Project operation would not be allowed to exceed:

- The noise standard for District One as specified in Table 2 (City of Long Beach Municipal Code) for a cumulative period of more than 30 minutes in any hour; or
- The noise standard plus 5 decibels for a cumulative period of more than 15 minutes in any hour; or
- The noise standard plus 10 decibels for a cumulative period of more than 5 minutes in any hour; or
- The noise standard plus 15 decibels for a cumulative period of more than 1 minute in any hour; or
- The noise standard plus 20 decibels or the maximum measured ambient, for any period of time.

Additionally, Section 8.80.202 of the City's Municipal Code establishes regulations related to noise from construction activities. Except for emergency work authorized by the building official, the Code prohibits noise-producing construction activities during the following times:

- 7 p.m. to 7 a.m., the next day, on weekdays, and federal holidays
- 7 p.m. on Friday to 9 a.m. on Saturday, and after 6 p.m. on Saturday
- Anytime on Sunday

### 3.8.2.2 Evaluation

#### Construction

For purpose of assessing noise impacts during construction of the proposed Project, a listing of construction equipment was obtained. Table 3-8 summarizes the needed construction machinery types and numbers, and shows the corresponding maximum noise level for each equipment type at a reference distance. For each phase of construction, noise emissions from all machines were combined, with respect to the number of machines of each type, to provide one single noise-emission level for each task. Such combination assumes continuous and concurrent operations of all machines, thus providing worst-case or conservative results.

Typically, noise from a point source decreases at a rate of 6 dBA per each doubling of distance, due to attenuation, as the noise travels through the atmosphere. For example, a measured noise level of 80 dBA at a distance of 50 feet from a source is expected to attenuate to approximately 74 dBA at 100 feet, and to less than 70 dBA beyond a distance of approximately 200 feet. At most of the residential locations east of the proposed Project, local topography, property line walls, and vegetation also provide additional noise attenuation for construction activities.

From data in Table 3-8, it is apparent that the highest noise levels from construction activities would likely occur during the initial stages of clearing and grubbing and excavation and grading of the proposed Project site.

At residential locations represented by Site 1, the nearest construction activities are expected to occur at distances of approximately 800 feet. Highest construction noise levels are expected to be near 60 dBA, which is similar to existing daytime maximum background sound levels. Construction noise in these areas is expected to be clearly audible while it lasts. Project construction is anticipated to occur between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday.

In residential areas north of the Country Club and between Del Amo Boulevard and Long Beach Boulevard (represented by Sites 2, 3, and 4), construction activities could occur within 100 feet of homes. Highest construction noise levels in these areas would exceed 80 dBA at times and present significant temporary increases in noise levels above the background. Although such activities would be temporary and during daytime hours, noise mitigation may be considered.

TABLE 3-8  
Estimated Construction Noise Levels at 50 Feet From Equipment (dBA)

Activity	Equipment	Reference Maximum Sound Level (dBA)	Number of Equipment	Combined Noise Level (dBA)
Clearing and Grubbing	Dozers	85	2	88
	Front-end loaders	85	2	88
	Excavator	86	1	86
	Dump trucks	71	4	71
	Water truck	68	1	68
<b>Total Noise Level:</b>				<b>92</b>
Excavation and Grading	Dozers	85	2	88
	Front-end loaders	85	2	88
	Excavator	86	1	86
	Dump trucks	71	4	71
	Water truck	68	1	68
<b>Total Noise Level:</b>				<b>92</b>
Installation	Excavator	82	1	82
	Front-end loader	85	1	85
	Dump truck	71	1	71
	Water truck	68	1	68
	Crane	83	1	83
	Concrete truck	71	1	71
	Delivery truck	68	1	68
<b>Total Noise Level:</b>				<b>88</b>
Landscape and Planting	Roller	74	1	74
	Paver	89	1	89
	Water truck	68	1	68
	Delivery truck	68	1	68
<b>Total Noise Level:</b>				<b>89</b>

Exterior areas of homes along the east side of DeForest Park (represented by Site 5), would experience noise levels near 70 dBA during loudest periods of construction. Such levels would substantially exceed the existing background noise levels and be clearly audible.

### Operation

Water flow in wetlands associated with the proposed Project would be primarily driven through gravity. Pump use would be minimal and very sporadic. Therefore, the proposed Project is not expected to cause any permanent increases in ambient noise levels in the Project vicinity above existing levels.

## 3.8.3 Mitigation Measures

### 3.8.3.1 Construction

Without mitigation of construction activities, the Project construction would result in significant impacts because construction activities would occur at close proximity to most of the residential areas east of the proposed Project. Specifically, Mitigation Measure N-1 has been identified to help reduce construction-related noise impacts and would likely reduce construction noise levels by an additional 10 dBA.



N-1 To minimize the adverse effects of construction noise on normal activities of residents in the vicinity of the proposed Project, temporary noise barriers consisting of acoustical curtains would be used along the west side of work areas, as needed.

### 3.8.3.2 Operation

Because there would be no significant noise impacts due to the operation of the proposed Project, noise mitigation is not required.

### 3.8.4 Significance After Mitigation

Given the short-term nature of construction activities, use of temporary barriers where needed will provide sufficient noise mitigation. While noise levels in some areas may still be higher than the background noise levels (i.e., noise levels may be clearly audible), with the implementation of Mitigation Measures N-1, potentially adverse noise impacts would be reduced to less-than-significant levels.

## 3.9 Public Services

### 3.9.1 Setting

#### Police Protection

Police protection for the proposed Project site would be provided by the Long Beach Police Department. The North Division of the Long Beach Police Department, located at 4891 Atlantic Avenue, is the closest Police Department location to the proposed Project.

#### Fire Protection

The City of Long Beach Fire Department would provide fire services to the proposed Project site. Fire Station 11 is located at 160 E. Market Street and is the station nearest to the broadest extent of the proposed Project site.

#### Schools, Parks, or Other Public Facilities

Schools in close proximity to the proposed Project site include Colin Powell Elementary School located at 150 W. Victoria Street, Addams Elementary School located at 5320 Pine Avenue, Sutter Academy located at 5075 Daisy Avenue, and Longview Private School located at 4747 Daisy Avenue.

Parks in close proximity to the proposed Project site include Scherer Park located at 4600 Long Beach Boulevard and DeForest Park located at 6255 DeForest Avenue.

### 3.9.2 Impacts

#### 3.9.2.1 Thresholds of Significance

Impacts related to public services would be considered significant if the proposed Project would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives related to fire protection, police protection, schools, parks, or other public facilities.

### 3.9.2.2 Evaluation

An objective of the proposed Project includes providing an environmental education resource for local schools and the general public. To achieve this objective, implementation of the proposed Project would create a physical environment with scenic attractiveness and increased interpretive opportunities for public use.

Various concerns relating to safety and security have been anticipated regarding the increased public use of the proposed Project. Vandalism, privacy, noise, physical hazards, and visual impacts were taken into account as factors influencing the siting of facilities and activities. The relatively low-use levels and lack of supervision would create general isolation. Regulations and hours for use would be posted at all entry points, which would be equipped with lockable gates. Site furnishings would be constructed from concrete or metal materials, to make them more resistant to vandalism and easier to clean in case of graffiti. Trees and vines or other screening vegetation would be planted along parts of the eastern edge of the Project to help address concerns for privacy, noise, and visual impacts on neighboring land uses. The provision of these facilities (i.e., site furnishings) would not have a significant impact on the environment.

A consequence of the proposed Project is that some additional police patrol may be necessary. The low level of additional police patrol relative to the service area of the Long Beach Police Department would not require new or altered government facilities in order to maintain acceptable service ratios. Therefore, construction and operation of the proposed Project would not result in a significant environmental impact related to the provision of new or altered government facilities or services.

### 3.9.3 Mitigation Measures

Because the proposed Project would not result in any adverse impacts to the environment resulting from the provision of new or altered public services that are significant under CEQA criteria, no mitigation measures are required.

#### 3.9.3.1 Construction

None required.

#### 3.9.3.2 Operation

None required.

### 3.9.4 Significance After Mitigation

Not applicable.

## 3.10 Recreation

### 3.10.1 Setting

Existing recreational opportunities at the proposed Project site include biking, hiking, and equestrian trails. Additionally, the proposed Project site is currently used by visitors for bird observation.

The LARIO Trail is a regional trail system that leads north from the mouth of the Los Angeles River along the east levee, then northeast along the Rio Hondo Channel to

Whittier Narrows Dam. Here it connects with the San Gabriel River Trail, which provides a link northward to the mountains. In the proposed Project area, the paved bicycle trail extends along the top of the east levee. The paved trail also serves for maintenance and emergency access. Unpaved trails along the east levee and the west bank of the West Basin serve equestrians, hikers, and walkers. These trails would continue to be important modes of access for public use of the proposed Project site.

### 3.10.2 Impacts

#### 3.10.2.1 Thresholds of Significance

Impacts related to recreation would be considered significant if the proposed Project would include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment

Other significance criteria identified in the CEQA Checklist were evaluated in the Initial Study for the proposed Project, which is included in Appendix A. The proposed Project was determined to have no impact associated with these other significance criteria because the proposed Project would not impact the use of existing neighborhood and regional parks or other recreational facilities.

#### 3.10.2.2 Evaluation

An objective of the proposed Project includes providing expanded passive recreation opportunities for City of Long Beach residents and other local communities.

##### Construction

Construction of recreational facilities associated with the proposed Project includes resurfacing foot trails with decomposed granite, repaving bike trails, installing bike racks, installing steel benches and trash receptacles, installing a hitching rail along the equestrian trails, constructing a shade shelter and observation tower at the south end of the East Basin, and installing a bird blind and shade structure next to the West Basin trail. Additionally, interpretive signage addressing water quality and bird life would be added alongside the LARIO Trail and East Levee equestrian trails.

Construction of the proposed Project would temporarily impact existing bike and foot trails for the purpose of improving and resurfacing these trails. Trails would be temporarily closed during these activities. However, temporary detours would be identified by signage and would maintain bike and foot trail continuity and connectivity for recreational access to areas above and below the proposed Project area. Therefore, construction-related impacts to bike and foot trails would be less than significant.

The physical impact area of installing these recreational facilities is within the footprint of the existing recreational facilities at the proposed Project site, and construction-related impacts associated with making these improvements to recreational facilities would be less than significant.

##### Operation

Implementation of the proposed Project would create an attractive physical environment with increased scenic and interpretive opportunities. Public use and enjoyment of the proposed Project would continue in much the same way as the basins are used now, with individuals and small groups visiting informally. Users would view the proposed Project via scenic side trips along the LARIO Trail or by coming in on foot, bike, or horseback from the surrounding neighborhoods. Operation of recreational facilities associated with the proposed Project

includes maintenance of trails and trash receptacles. The operation of recreational facilities would not result in significant adverse impact on the environment.

### 3.10.3 Mitigation Measures

Because the proposed Project would not result in any adverse impacts to the environment resulting from the expansion of recreational facilities that are significant under CEQA criteria, no mitigation measures are required.

#### 3.10.3.1 Construction

None required.

#### 3.10.3.2 Operation

None required.

### 3.10.4 Significance After Mitigation

Not applicable.

## 3.11 Transportation and Traffic

### 3.11.1 Setting

The proposed Project is currently accessible from Del Amo Boulevard (provides access to Dominguez East Basin and the southern segment of the Market Street Basin), Carson Street (provides access to Dominguez West Basin), the existing DeForest Park (provides access to the northern segment of the Market Street Basin), Long Beach Boulevard near Sutter School (provides access to both the northern and southern segments of the Market Street Basin), and the LARIO Trail (bike trail provides access to Dominguez East Basin and both the northern and southern segments of the Market Street Basin).

#### 3.11.1.1 Existing Traffic Volumes and Levels of Service

The assessment of existing conditions relevant to this study includes an inventory of the surrounding street system, existing traffic volumes on these facilities, and operating conditions at five key intersections. The following five intersections were analyzed in this study, each of which is signalized:

- Susana Road & I-710 southbound ramps
- Daisy Avenue South and Del Amo Boulevard
- Daisy Avenue North and Del Amo Boulevard
- Long Beach Boulevard and Del Amo Boulevard
- Long Beach Boulevard and Market Street

Appendix E, Table 1, summarizes the physical characteristics of the major surrounding streets. Diagrams of the existing lane configurations at each of the analyzed intersections are provided in Appendix E, Figure 2. New traffic counts were conducted for this study on Thursday, April 7, 2005. The base traffic count data is provided in Appendix E, Attachment C. Weekday morning and afternoon peak hour volumes were identified as the

highest 1-hour volumes in the periods between 7:00 a.m. and 9:00 a.m. and between 4:00 p.m. and 6:00 p.m. These traffic volumes are illustrated in Appendix E, Figure 3.

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. LOS D is typically recognized as the minimum acceptable level of service in urban areas. In accordance with the practice of the City of Long Beach, the "Intersection Capacity Utilization" (ICU) method of analysis was used to determine the intersection volume-to-capacity (V/C) ratio and corresponding LOS for the study intersections. Level of service definitions for signalized intersections are summarized in Appendix E, Table 2.

The existing LOS analysis is summarized in Appendix E, Table 3, and shows the V/C ratio and corresponding LOS at each of the study intersections. As shown in Appendix E, Table 3, the intersections are all operating at LOS D or better, except for the intersection of Long Beach Boulevard and Market Street, which is operating at LOS E in the afternoon peak hour. Level of service calculation sheets are provided in Appendix E, Attachment D.

### 3.11.2 Impacts

#### 3.11.2.1 Thresholds of Significance

Impacts related to transportation and traffic would be considered significant if the proposed Project would do the following:

- Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ration on roads, or congestion at intersections)
- Exceed, either individually or cumulatively, a LOS standard established by the county congestion management agency for designated roads or highways
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
- Result in inadequate parking capacity

Additionally, the City of Long Beach considers an intersection to be operating at an acceptable LOS if it is operating at LOS D or better. Any project that results in the degradation of an intersection to LOS E or F is considered to impact that location significantly. If an intersection is projected to operate at LOS E or F before the addition of Project traffic, and if it causes the intersection volume/capacity ratio to increase by more than 0.02, then the Project would also have a significant impact.

Other significance criteria identified in the CEQA Checklist were evaluated in the Initial Study for the proposed Project, which is included in Appendix A. The proposed Project was determined to have no impact associated with these other significance criteria for the following reasons: (1) The proposed Project would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks; (2) The proposed Project would not result in inadequate emergency access; and (3) The proposed Project would not conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts and bicycle racks).

### 3.11.2.2 Evaluation

#### Construction

Table 2-2 presents a list of construction phases, the duration of each, and the anticipated types of equipment or vehicles and crew size. The most intense phases of construction would be Clearing and Grubbing, Excavation and Grading and Installation, which together would last approximately 1 year. Employee trips would be relatively constant throughout construction, with the daily work crew ranging between 16 and 20 construction workers. Truck trips are estimated at approximately 35 trips per day and would be dispersed throughout the day. Thus, during the most intense phases of construction activity, the proposed Project is estimated to generate approximately 75 or fewer trips per day. These trips would be dispersed over the several areas encompassed within the proposed Project site and would not be concentrated at any single location.

By ordinance, construction activity on the site is limited to the hours between 7:00 a.m. and 7:00 p.m. The proposed Project would be constructed with one 8-hour shift per working day. Activity at typical construction projects is concentrated in the first part of the permissible 12-hour window, with most workers typically arriving and departing the job site outside of peak traffic hours (such as 7:00 a.m. to 3:00 p.m.).

The projected level of daily construction-related daily traffic is relatively low and it is likely that the majority of the construction-related trips would occur outside the peak hours of adjacent street traffic. All of the analyzed intersections in the vicinity of the site are operating at acceptable levels of service, except for the intersection of Long Beach Boulevard and Market Street which is projected to operate at LOS E during the afternoon peak hour (4:45 p.m. to 5:45 p.m.). The City of Long Beach threshold states that a significant intersection impact would occur if Project traffic were to increase the V/C ratio by 0.02 or more at this intersection. A significant impact at this intersection could only result if the Project were to add at least 32 trips to this single intersection; this would represent over 40 percent of the daily total trips and is not considered likely. For these reasons, no significant off-site cumulative traffic impacts are projected to occur during construction of the proposed Project.

#### Operation

##### *Future Traffic Conditions With Project Traffic*

Appendix E, Figure 6, illustrates the projected cumulative plus Project afternoon peak hour traffic volumes. Appendix E, Table 5, presents the results of the LOS calculations for the study intersections with incremental Project traffic added. As shown, the addition of Project traffic would only slightly worsen or would not affect operating conditions at the surrounding intersections. Using the City of Long Beach's impact threshold, however, it was determined that the Project would not create any significant traffic impacts. Because no significant Project-related traffic impacts have been identified, no mitigation measures are required for the proposed Project.

##### *Neighborhood Street Segment Analysis*

In order to assess the existing conditions on the local streets surrounding the proposed Project, existing weekday daily traffic volume data (also known as average daily traffic [ADT]) was collected at each of the following locations on Thursday, April 7, 2005, and Tuesday, April 12, 2005:

- Chestnut Avenue south of Cedar Avenue
- Ellis Street east of Long Beach Boulevard
- Daisy Avenue north of Del Amo Boulevard

- Daisy Avenue south of Del Amo Boulevard
- Oregon Avenue south of Del Amo Boulevard
- Carson Street west of Via Alcalde Avenue

The existing daily volumes for each of the above local street segments are shown in Appendix E, Table 7.

The City of Long Beach examines potential street segment impacts on an individual project basis, and the impact criteria applied to evaluate these potential traffic impacts on street segments are based on the existing daily volumes and the projected level of increase that can be attributed to the Project. For local streets, the criteria set forth by the City of Long Beach state that a local street would be significantly impacted with the addition of approximately 500 daily trips.

Based on the estimated 23 daily trips shown in Appendix E, Tables 5, the proposed Project traffic volumes fall well below the threshold for street segment analysis. No further traffic analysis is therefore required, and the neighborhood impacts are considered to be less than significant.

#### *Regional/CMP Analysis*

Additional analyses were conducted to comply with Los Angeles County Metropolitan Transportation Authority (MTA) Congestion Management Program (CMP) requirements. Potential impacts of the proposed Project on the CMP freeway monitoring locations and CMP arterial intersection monitoring stations were evaluated in accordance with CMP Transportation Impact Analysis (TIA) requirements. The MTA CMP program states that a CMP freeway analysis must be conducted if 150 or more trips attributable to the proposed development are added to a mainline freeway monitoring location in either direction during the morning or afternoon peak hour. Similarly, a CMP arterial intersection analysis must be conducted if 50 or more peak hour Project trips are added to a CMP arterial intersection. Based on the Project trip generation estimates shown in Appendix E, Tables 6, the proposed Project traffic volumes fall well below the thresholds for CMP intersection and freeway analysis. No further traffic analysis on CMP mainline freeway monitoring locations or CMP arterial intersections is therefore required and CMP impacts are considered to be less than significant.

#### *Parking Analysis*

The passive recreational uses that currently exist on the site will be enhanced by the proposed Project. Because the Project site is owned by DPW, and the DPW is precluded from developing parks on its property, the code parking requirement is not directly applicable to the Project. Nevertheless, for the purposes of the environmental analysis of the Project, the Project can be treated as a passive park to estimate the amount of parking that may be needed to serve the new and upgraded public access areas.

Relevant sections of the Los Angeles County Code (Section 22.52.1175) and the Long Beach Municipal Code (Section 21.41.216) were reviewed to determine the amount of parking that may be needed to serve the Project. Both codes call for provision of two parking spaces per acre for parks, such as the passive recreational uses on the Project site that would be upgraded or expanded by the Project. Because the Project would provide 3.7 acres of upgraded foot trails and 0.8 acres of new foot trails (a total of 4.5 acres), the Project could generate a demand for up to nine parking spaces.

The actual demand for parking at the site could be less than the code requirement because some Project-related trips, particularly those made by visitors under 16, would be made by

non-automotive means. It is anticipated that the proposed Project would be primarily a local attraction patronized by local residents, many of whom could travel to the site by non-automotive means. Additionally, many users would travel to the site via bicycle to use the bike trail and would not cause a parking demand.

Because the Project will not provide any new parking, a parking utilization survey was conducted on streets in the adjoining neighborhoods to determine their ability to accommodate the potential demand. The survey recorded the total number of unrestricted on-street parking spaces within approximately two blocks of the site and their level of utilization during 8-hour periods on a weekday (Thursday, April 7, 2005, from 12 p.m. to 8:00 p.m.) and on a weekend day (Saturday, April 9, 2005, from 12 p.m. to 8:00 p.m.). The surveyed streets were grouped into several sections, as shown in Appendix E, Figure 1. The results of this survey are discussed below and are presented in Appendix E, Table 8, and Tables E1 through E12.

The total available on-street parking supply in the vicinity of the Project site was observed to be 2,672 spaces. Of this total, approximately 901 lie within one block of public access points to the Project.

Total weekday parking utilization in the vicinity, documented in Appendix E, Tables E1 through E6, was observed to vary from 712 spaces to 1,103 spaces during the survey hours. The peak demand occurred between 7:00 p.m. and 8:00 p.m., when the overall occupancy was 1,013 spaces (38 percent of all surveyed spaces). During that hour, a total of 1,659 parking spaces were unoccupied in the vicinity of the Project site, including more than 693 within approximately one block of public access points to the Project site.

Observed weekend parking utilization in the vicinity, documented in Appendix E, Tables E7 through E12, was similar to weekday utilization. During the survey hours, it was observed to vary from 954 spaces to 1,258 spaces. The peak demand occurred between 7:00 p.m. and 8:00 p.m., when the overall occupancy was 1,258 spaces (47 percent of all surveyed spaces). During that hour, a total of 1,424 parking spaces were unoccupied in the vicinity of the Project site, including 615 within approximately one block of public access points to the Project site.

Based on the parking utilization survey conducted for this study, there is more than sufficient parking capacity on the streets surrounding the Project site to accommodate the estimated parking demand of nine spaces that cannot physically be provided on the site without impacting nearby residents.

### **3.11.3 Mitigation Measures**

Because the proposed Project would not result in any transportation and traffic impacts that are significant under the significance criteria, no mitigation measures are required.

#### **3.11.3.1 Construction**

None required.

#### **3.11.3.2 Operation**

None required.

### **3.11.4 Significance After Mitigation**

Not applicable.



## 4.0 Project Alternatives

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### 4.1 CEQA Requirements for Alternatives

CEQA requires that a reasonable range of feasible alternatives to a proposed Project be evaluated in an EIR. The CEQA Guidelines, Section 15126.6, Consideration and Discussion of Alternatives to the Proposed Project, specify that “an EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternative.” Additionally, “an EIR is not required to consider alternatives which are infeasible.” CEQA Guidelines Section 15126.6 further states that the EIR “should briefly describe the rationale for selecting the alternatives to be discussed...and should identify any alternatives that were considered by the lead agency but were rejected as infeasible... Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts.”

CEQA also requires consideration of a No Project Alternative. CEQA Guidelines, Section 15126.6(e)(1), states that the “purpose of describing and analyzing a no project alternative is to allow decisionmakers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project.”

### 4.2 Alternative Development Process

The alternatives development process included identification of preliminary alternatives, application of screening criteria, elimination of alternatives from further consideration, and identification of alternatives to the proposed Project that are evaluated in this EIR.

#### 4.2.1 Identification of Preliminary Alternatives

Preliminary alternatives were identified through a review of the Dominguez Gap Wetlands/ Recreation Study (2001) and the DeForest Nature Center and Sixth Street Sites Wetland Feasibility Study (CH2M HILL, 2002). These reports provide detailed analyses of existing conditions and alternative ecological and recreational restoration options and costs. These alternatives are described below:

##### 4.2.1.1 Alternative A

Implementation of Alternative A would entail leaving the existing grade of the proposed Project area in its current form. Site modification would be limited to revegetation with native scrub and planting of riparian vegetation.

##### 4.2.1.2 Alternative B

Implementation of Alternative B would develop a nature center and educational facility in conjunction with revegetation, grading, and hydrodynamic restructuring. The nature center would act as an extended classroom for schools in the surrounding neighborhoods. In

addition, the southern segment of the Market Street Basin would be excavated and graded to create additional habitat and allow for flow to pass directly to the East Basin of the Dominguez Gap Spreading Grounds. All other elements of Alternative B would be the same as the proposed Project.

## 4.2.2 Screening Criteria

DPW identified screening criteria for the proposed Project. The screening criteria consist of the objectives set forth in Chapter 2 for the proposed Project, which are restated below for ease of reference.

### 4.2.2.1 Project Objectives

- Provide a community asset that is a point of interest along the Los Angeles River and within the City of Long Beach
- Improve water quality for groundwater recharge and Los Angeles River discharge
- Result in no net loss of flood control capacity
- Result in no net loss of groundwater recharge
- Improve and expand habitat for wetland and riparian species
- Expand passive recreation opportunities for the City of Long Beach and other local communities
- Provide an environmental education resource for local schools and the general public

## 4.2.3 Screening Criteria Applied to the Preliminary Alternatives

DPW applied the above screening criteria to the identified preliminary alternatives. Table 4-1 shows the preliminary alternatives and identifies whether the screening criteria were met.

TABLE 4-1  
Screening Criteria Applied to Preliminary Alternatives

Preliminary Alternative	Screening Criteria Met	Screening Criteria Not Met
Alternative A	1, 3, 4, 5	2, 6, 7
Alternative B	1, 2, 3, 5, 6, 7	4
Proposed Project	1, 2, 3, 4, 5, 6, 7	-

## 4.2.4 Alternatives Eliminated from Consideration

As shown above, all of the preliminary alternatives met a majority of the screening criteria. In addition to these screening criteria, CEQA Guidelines 15126.6 identify additional factors that may be used to eliminate alternatives from detailed consideration in an EIR. These additional factors include: (1) infeasibility, and (2) inability to avoid significant environmental impacts.

When considering the screening criteria with the additional factors identified in the CEQA Guidelines, Alternative B is eliminated from detailed consideration for the following reasons:

- The level of excavation and grading anticipated for Alternative B is such that construction costs would be prohibitive, making implementation infeasible.
- Equipment use and exposed graded surface area necessary for the level of excavation and grading in Alternative B would likely result in significant unavoidable environmental impacts to air quality; particularly NO<sub>x</sub> and PM<sub>10</sub>.

## 4.3 Alternatives Evaluation

The preliminary alternative that met the majority of screening criteria and was not eliminated by the additional factors that may be used to eliminate alternatives from detailed consideration in an EIR was Alternative A. This section describes the potential environmental impacts of the No Project Alternative (as required by CEQA Section 15126.6(e)) and Alternative A.

### 4.3.1 No Project Alternative

The No Project alternative under CEQA represents the circumstances under which the proposed Project does not proceed.

The No Project Alternative would result in the continued operation of the Dominguez Gap Spreading Grounds and Market Street Basin for the purpose of flood control and groundwater recharge. The No Project Alternative would not realize many of the multipurpose functions of the proposed Project, including improved water quality for groundwater recharge and Los Angeles River discharge, improved and expanded habitat for wetland and riparian species, expanded passive recreation, and an environmental education resource.

The No Project Alternative would not meet many of the Project Objectives. Table 4-2 identifies the potential environmental impacts of the No Project Alternative.

### 4.3.2 Alternative A

Implementation of Alternative A would entail leaving the existing grade of the proposed Project area in its current form. Site modification would be limited to revegetation with native scrub and planting of riparian vegetation.

Alternative A would not realize some of the multipurpose functions of the proposed Project, including improved water quality for Los Angeles River discharge, expanded passive recreation, and an environmental education resource. Alternative A would not meet some of the Project Objectives. Table 4-2 identifies the potential environmental impacts of Alternative A.

### 4.3.3 Potential Impacts from Project Alternatives

Table 4-2 identifies the potential environmental impacts of the No Project Alternative and Alternative A.

TABLE 4-2  
Potential Impacts from Project Alternatives

Resource Area	No Project Alternative	Alternative A
Aesthetics	The No Project Alternative would result in no impacts related to aesthetics.	Alternative A would result in less than significant impacts related to aesthetics.
Air Quality	The No Project Alternative would result in no impacts related to air quality.	Alternative A would result in negligible impacts related to air quality resulting from vehicle delivery of native plants.
Biological Resources	The No Project Alternative would result in no impacts related to biological resources. However, the No Project Alternative would not meet the Project Objective of improved and expanded habitat for wetland and riparian species.	Alternative A would result in significant impacts requiring mitigation to sensitive biological resources, including special-status bird and plant species, from activities associated with planting of scrub and riparian vegetation.
Geology and Soils	The No Project Alternative would result in no impacts related to geology and soils.	Alternative A would result in no impacts related to geology and soils.
Hazards and Hazardous Materials	The No Project Alternative would result in no impacts related to hazards and hazardous materials.	Alternative A would result in less than significant construction and operation impacts related to hazards and hazardous materials.
Hydrology and Water Quality	The No Project Alternative would result in no impacts related to hydrology and water quality. However, the No Project Alternative would not meet the Project Objective of improved water quality for groundwater recharge and Los Angeles River discharge.	Alternative A would result in no impacts related to hydrology and water quality. However, the No Project Alternative would not meet the Project Objective of improved water quality Los Angeles River discharge.
Noise	The No Project Alternative would result in no impacts related to noise.	Alternative A would result in negligible noise impacts related to installing native vegetation.
Public Services	The No Project Alternative would result in no impacts related to public services. However, the No Project Alternative would not meet the Project Objective of providing an environmental education resource.	Alternative A would result in no impacts related to public services. However, Alternative A would not meet the Project Objective of an environmental education resource.
Recreation	The No Project Alternative would result in no impacts related to public services. However, the No Project Alternative would not meet the Project Objective of providing expanded passive recreation.	Alternative A would result in no impacts related to recreation. However, Alternative A would not meet the Project Objective of expanded passive recreation.
Transportation and Traffic	The No Project Alternative would result in no impacts related to transportation and traffic.	Alternative A would result in no impacts related to transportation and traffic.

### 4.3.4 Comparison of No Project Alternative and Alternative A to the Proposed Project

Table 4-3 provides a comparison of the potential environmental impacts of the No Project Alternative and Alternative A to the proposed Project. The proposed Project has the potential for short-term construction impacts that are less than significant after mitigation to air quality, biological resources, geology and soils, hydrology and water quality, and noise. The No Project Alternative, while having fewer construction-related impacts, would not meet many of the Project Objectives, including improved water quality for groundwater recharge and Los Angeles River discharge, improved and expanded habitat for wetland and riparian species, expanded passive recreation, and an environmental education resource. Alternative A would have fewer construction-related impacts than the proposed Project. Also, Alternative A would meet some, but not all, of the Project Objectives. Specifically, Alternative A would not meet the Project Objectives of improved water quality for Los Angeles River discharge, expanded passive recreation, and an environmental education resource.

TABLE 4-3  
Comparison of Potential Impacts from the Proposed Project and Project Alternatives

Resource Area	Proposed Project	No Project Alternative	Alternative A
Aesthetics	LS	N	LS
Air Quality	LSM	N	LS
Biological Resources	LSM	N	LSM
Geology and Soils	LSM	N	N
Hazards and Hazardous Materials	LS	N	LS
Hydrology and Water Quality	LSM	N	N
Noise	LSM	N	LS
Public Services	LS	N	N
Recreation	LS	N	N
Transportation and Traffic	LS	N	N

N = no impact

LS = less than significant

LSM = less than significant impact after mitigation

S = potentially significant impact after mitigation

## 4.4 Environmentally Superior Alternative

DPW has determined that the environmentally superior alternative is the proposed Project.

The No Project Alternative, while having fewer construction-related impacts, would not meet many of the Project Objectives, and resulting environmental benefits, including improved water quality for groundwater recharge and Los Angeles River discharge, improved and expanded habitat for wetland and riparian species, expanded passive recreation, and an

environmental education resource. As such, the No Project Alternative cannot reasonably be considered to be environmentally superior.

Alternative A would have fewer construction-related impacts than the proposed Project. Also, Alternative A would meet some, but not all, of the Project Objectives, and would realize fewer environmental benefits as compared to the proposed Project. Specifically, Alternative A would not meet the Project Objectives of improved water quality for Los Angeles River discharge, expanded passive recreation, and an environmental education resource. It is important to note that all of the temporary environmental impacts of the proposed Project would be mitigated to a level of less than significant. Additionally, the proposed Project would realize all of the Project Objectives, many of which would result in a long-term improvement to the environment and the surrounding community. Considering that the proposed Project would have no significant adverse environmental impacts, and that it would result in long-term improvement to the environment and the surrounding community, the proposed Project is environmentally superior to Alternative A and the No Project Alternative.

## 5.0 Other CEQA Topics

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### 5.1 Cumulative Impacts

This section addresses potential cumulative impacts to the environment that could occur as a result of implementing the proposed Project in conjunction with one or more other projects.

The CEQA Guidelines (Section 15130) state that “a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts.” Other projects causing related impacts may consist of “past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency.”

Additionally, the discussion of cumulative impacts “shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other project contribute.”

#### 5.1.1 Proposed Project Impacts

Each section of Chapter 3 identifies potentially significant impacts associated with implementation of the proposed Project. The proposed Project has the potential for short-term construction impacts that are less than significant after mitigation to air quality, biological resources, geology and soils, hydrology and water quality, and noise. No potentially significant long-term impacts were identified for the proposed Project.

#### 5.1.2 Thresholds of Significance

The CEQA Guidelines (Section 15355) define cumulative impacts as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.”

A cumulative impact is significant if, when considered collectively with the impacts of other projects, it exceeds the threshold of significance for a particular individual environmental resource area, as described in Chapter 3.

For the purposes of this analysis, potentially significant cumulative effects are addressed in terms of short-term cumulative impacts (i.e., those impacts that would be cumulatively considerable during construction). No potentially significant long-term impacts were identified for the proposed Project.

#### 5.1.3 Reasonably Foreseeable Future Projects

Lists of major projects within the City of Long Beach and the City of Carson were reviewed, and included 116 total projects. However, Section 15130(b) of the CEQA Guidelines recommends the list be limited to projects producing related or cumulative impacts. Additionally, 15130(b) of the CEQA Guidelines states that the discussion of cumulative impacts shall reflect the severity of impacts and their likelihood of occurrence, and should be

guided by standards of practicality and reasonableness. Therefore, the following criteria have been selected to identify reasonably foreseeable future projects that could potentially result in a significant short-term cumulative impact when combined with the proposed Project:

- Projects located in the vicinity of the proposed Project (as shown on Figure 13)
- Projects with construction time frames that overlap with construction of the proposed Project (April 2006 through October 2008).

Table 5-1 below identifies reasonably foreseeable future projects that meet the above-stated criteria. These reasonably foreseeable future projects are shown on Figure 13.

TABLE 5-1  
Reasonably Foreseeable Future Projects

Description and Size of Project	Location	Anticipated Construction Schedule
Self-Storage/519,135 sq. ft.	712 W. Baker St.	Unknown, No Entitlements Granted
Rancho Los Cerritos Visitors Center and Care Taker Residence/3,000-sq.-ft Visitor Center and 1,000-sq.-ft. Care Taker Residence	4600 Virginia Rd.	During 2006

City of Long Beach Major Projects List: March 1, 2005

Because the proposed Project has the potential for short-term construction impacts that are less than significant after mitigation to air quality, biological resources, geology and soils, hydrology and water quality, and noise, the potential effect that additional projects may have on these specific environmental resource areas is evaluated to determine the potential for a significant cumulative impact. No potentially significant long-term impacts were identified for the proposed Project.

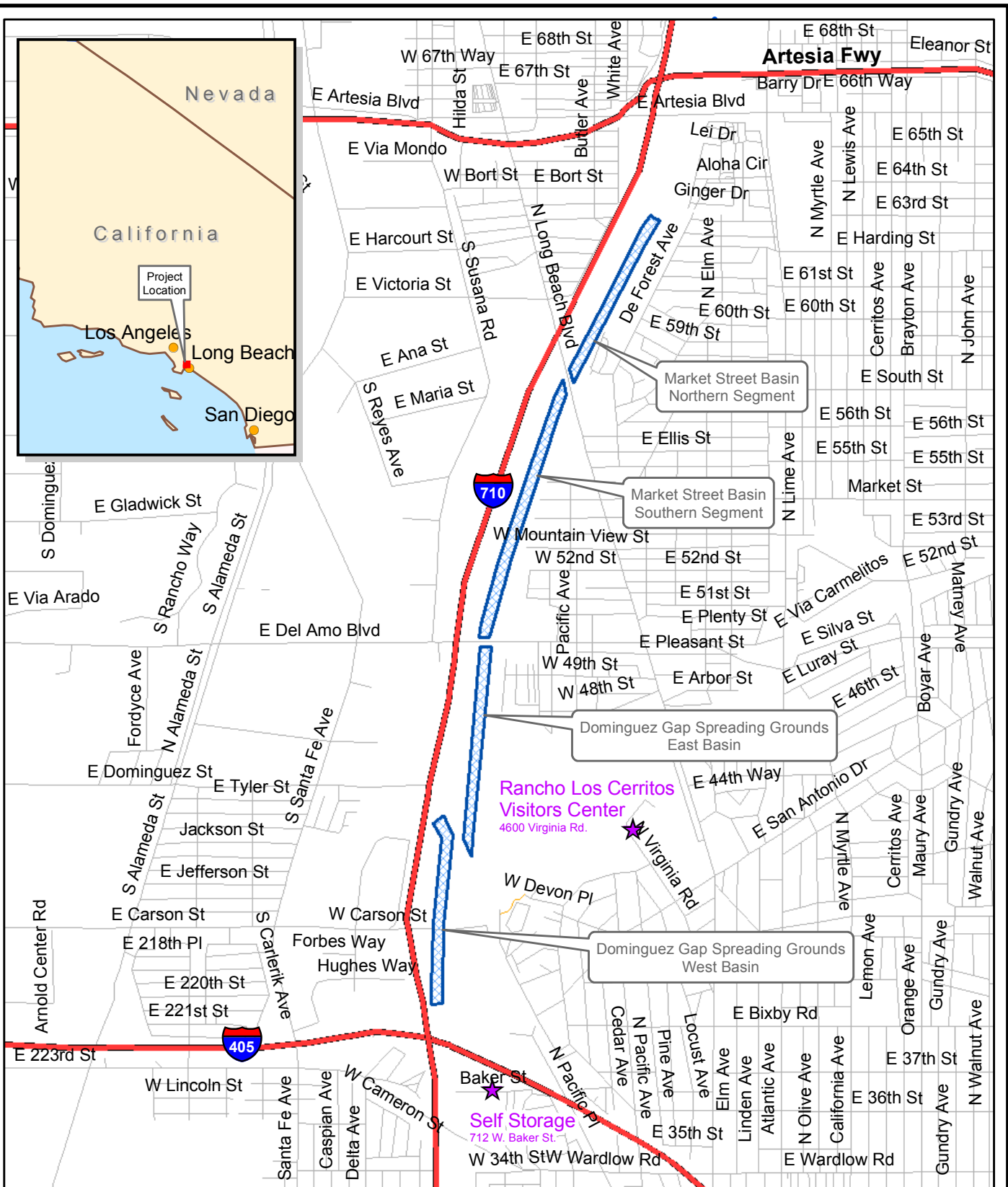
#### 5.1.4 Potential Cumulative Impacts

The following discussion summarizes that the potential cumulative impacts that could occur with construction of the proposed Project in conjunction with the reasonably foreseeable future projects. Mitigation measures, if required, are also identified.

##### Air Quality

Air emissions during construction at the proposed Project are anticipated to be below daily significance thresholds with the inclusion of Mitigation Measure AQ-1. This mitigation would also reduce cumulatively significant air quality impacts. While the construction emissions of the Self-Storage and the Rancho Los Cerritos Visitors Center and Care Taker Residence cannot be quantified because the specific construction equipment and construction schedules are not practically available, in general, construction of these projects involves small-scale activities and would not be expected to result in a significant air quality impact. Additionally, it is likely that similar mitigation would be implemented by these construction projects to reduce air emissions and cumulatively significant air quality impacts. Therefore, it is anticipated that any potential cumulative impacts to air quality would be mitigated to a less-than-significant level.







### Biological Resources

Construction of the proposed Project could result in significant impacts requiring mitigation to sensitive biological resources, including special-status bird and plant species. Mitigation Measures BR-1 through BR-5 have been identified for the proposed Project to reduce construction-related biological resources impacts to a level of less than significant. Construction of the Self-Storage would occur in a graded area of limited and degraded habitat. Additionally, the Rancho Los Cerritos Visitors Center and Care Taker Residence would occur in an area that has already been developed. Because potential impacts of the proposed Project have been mitigated to a level of less than significant, and the other projects would be of minimal impact to biological resources, no cumulative impacts to biological resources are anticipated to occur.

### Geology and Soils

The temporary creation of areas of exposed soils during construction of the proposed Project could temporarily result in soil erosion or loss of topsoil that would have potentially significant impacts. Mitigation Measure GS-1 has been identified to reduce potential impacts to soil resources to less-than-significant levels. Site grading or excavation associated with construction of the Self-Storage and the Rancho Los Cerritos Visitors Center and Care Taker Residence could potentially have soil erosion impacts. While such potential soil erosion impacts are not practically quantifiable, they are localized in nature, and it is likely that similar mitigation would be implemented by these construction projects to reduce soil erosion. Therefore, it is anticipated that cumulative impacts to geology and soils that would be mitigated to a less-than-significant level.

### Hydrology and Water Quality

During construction of the proposed Project, short-term impacts to surface water quality could result from stormwater flow across the proposed Project site that would potentially result in substantial erosion. Changes in topography and the presence of excavated and/or unprotected soil could affect stormwater runoff. Mitigation Measure WR-1 has been identified to reduce potential impacts to surface water to less than significant. Additionally, construction activities occurring within the River may cause sediment to be washed into surface waters of the United States, which could impact water quality. Mitigation Measure WR-2 has been identified to reduce potential impacts to surface water to less than significant. Construction of the Self-Storage and the Rancho Los Cerritos Visitors Center and Care Taker Residence could potentially result in short-term impacts to surface water quality associated with stormwater. These potential surface water impacts are not practically quantifiable. However, it is likely that similar mitigation to WR-1 would be implemented by these construction projects to reduce potential impacts to surface water quality. Construction of the Self-Storage and the Rancho Los Cerritos Visitors Center and Care Taker Residence would not create additional physical impacts to the River because their activities are not within the footprint of the River. Therefore, it is anticipated that cumulative impacts to hydrology and water quality would be mitigated to a less-than-significant level.

### Noise

Temporary noise impacts associated with construction of the proposed Project are likely because construction activities would occur at close proximity to most of the residential areas east of the proposed Project. Mitigation Measure N-1 has been identified to help reduce construction-related noise impacts, and would likely reduce construction noise levels by an additional 10 dBA. Construction of the Self-Storage and the Rancho Los Cerritos Visitors Center and Care Taker Residence would be at substantial distances (see Figure 13) from the proposed Project. While noise levels in some areas adjacent to the proposed

Project may still be higher than the background noise levels (i.e., noise levels may be clearly audible), with the implementation of Mitigation Measures N-1, potentially adverse noise impacts, including cumulative noise impacts, would be reduced to less-than-significant levels.

### 5.1.5 Cumulative Impacts Summary and Conclusions

Two projects were identified that could potentially be constructed during the same time frame as construction of the proposed Project. These projects include construction of the Self-Storage and the Rancho Los Cerritos Visitors Center and Care Taker Residence. The potential for significant cumulative impacts from these projects and the proposed Project was evaluated for air quality, biological resources, geology and soils, hydrology and water quality, and noise, and it was determined that potential cumulative impacts would be mitigated to a less-than-significant level.

Based on the analysis contained in this Draft EIR, the proposed Project would not result in significant adverse environmental impacts during operation or maintenance. Therefore, cumulative impacts during operation have not been addressed in this cumulative impacts discussion.

## 5.2 Growth Inducement

Section 15126.2(d) of the CEQA Guidelines requires that growth-inducing impacts of a project be discussed in an EIR. Growth inducement is related to the ways in which the proposed Project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment.

The quantity and distribution of population in the City of Long Beach affect housing, the economy, the environment, infrastructure use, and demand on public services. Thus, to respond to and plan for future population, the City's General Plan and the Southern California Association of Governments Regional Comprehensive Plan and Guide include forecasts of population and housing trends. Because projections are used to plan the infrastructure and level of service required to support the future population, actual growth in excess of the projections can lead to deficiencies.

The following sections address the requirements of CEQA that an EIR discusses. It also discusses whether the proposed Project could directly or indirectly lead to economic, population, or housing growth.

### 5.2.1 Thresholds of Significance

A project would have a significant effect on regional growth based on the following:

- The degree to which the project would cause growth (i.e., new housing or employment generators) or accelerate development in an undeveloped area that exceeds project/planned levels for the year of project occupancy/buildout
- Whether the project would introduce unplanned infrastructure that was not previously evaluated in adopted Community Plan or General Plan

## 5.2.2 Existing Environmental Setting

Existing facilities at the proposed Project site include the Dominguez Gap Spreading Grounds and the Market Street Basin, which are operated by DPW. Most of the proposed Project site is east of the River and is bound by DeForest Park at the north and the Metro Blue Line at the south. The southern most-segment is west of the River and is bound by the Metro Blue Line at the north and extends approximately 2,000 feet south towards Interstate 405.

The proposed Project is designated as Open Space and Park in the City of Long Beach General Plan. Surrounding land uses include single-family residential, mixed-density residential, high-density residential, and public right-of-way. Public right-of-way includes areas used by the County of Los Angeles Department of Public Works, City of Long Beach, California Department of Transportation, Metropolitan Transportation Authority, and Union Pacific Railroad. The proposed Project is within the jurisdiction of the City of Long Beach Fire Department.

## 5.2.3 Impacts

The proposed Project would require approximately 40-construction workers during the construction period. The vast majority of workers are expected to live and work in the area, resulting in a less-than-significant impact on the temporary or permanent increase of population, housing, geographic distribution, and supply-demand relationships. The degree of the proposed Project-related changes regarding construction workers needed to construct the proposed Project would not alter the local, regional, or other adopted population growth policies.

In the long term, the proposed Project would not include onsite staff; maintenance and operation would be provided by existing DPW staff or contractors. Because the proposed Project only provides improvements to the existing facilities and requires no onsite operating staff, it would not impact population, housing, geographic distribution, or supply-demand relationships. The degree of the proposed Project-related changes would not alter the local, regional, or other adopted population growth policies because no onsite operating staff would be required. No growth-inducing impacts are anticipated from the proposed Project.

## 5.2.4 Mitigation

No mitigation measures are required because the proposed Project would not have a significant short- or long-term impact on population, housing, geographic distribution, and supply-demand relationships; and the degree of proposed Project-related changes would not alter the local, regional, or other adopted population growth policies.

## 5.3 Significant Irreversible Environmental Effects

The proposed Project would implement a multipurpose wetland development that would (1) provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation, and education, (2) be safe for passive public use, and (3) require minimal maintenance while retaining the existing flood control capacity.

Materials and energy necessary to implement the proposed Project would be irreversibly committed. Construction of the facilities would require commitment of concrete, decomposed granite, steel, asphalt, and others. Construction of these facilities would also require the

commitment of gasoline, diesel fuel, and water. Sufficient quantities of these resources exist in the region, and these impacts are not expected to be significant.

Long-term operation of the proposed Project facilities would require minimal continued commitment of natural resources for maintenance activities. The source of water for the proposed Project would be diverted flow from the Los Angeles River and low-flow and stormwater input from storm drains, and would not result in a significant impact to water resources. The proposed Project would however result in a long-term positive impact on the environment, particularly to biological resources and surface water quality.

## 6.0 List of Preparers

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Farshad Farhang – Senior Acoustics Specialist

Wass Gerke and Associates

Roland Wass – Senior Scientist

Kaku Associates

Netai Basu – Certified Planner





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**APPENDIX A**

**Notice of Preparation, Initial Study, and Scoping Meeting  
Comments and Written Comments**

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## NOTICE OF PREPARATION

To: \_\_\_\_\_  
Responsible or Trustee Agencies

\_\_\_\_\_  
(Address)

From: County of Los Angeles Department of Public Works  
Watershed Management Division

900 South Fremont Avenue, 11<sup>th</sup> Floor

\_\_\_\_\_  
(Address)

Alhambra, CA 92803-1331

**Subject: Notice of Preparation of a Draft Environmental Impact Report**

The County of Los Angeles Department of Public Works will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the Project identified below. We need to know the views of your agency as to the scope and content of the environmental information that is germane to the statutory responsibilities of your agency in connection with the proposed Project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approvals for the Project.

The Project description, location, and the potential environmental effects are contained in the attached materials.

- ☐ A copy of the Initial Study **is** attached.
- ☒ A copy of the Initial Study **is not** attached.

As stated in the Initial Study, the proposed Project would not result in adverse environmental effects for the following topics: Agriculture Resources, Cultural, Land Use and Planning, Mineral Resources, Population and Housing, and Utilities and Service Systems. These topics will not be addressed in the EIR.

A copy of the Initial Study is available for review at North Library, 5571 Orange Avenue, Long Beach, California, and Main Branch Library, 101 Pacific Avenue, Long Beach, California. Due to the time limits mandated by State law, your response must be sent at the earliest possible date, but not later than 30 days after receipt of this notice.

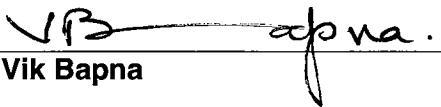
A Public Scoping Meeting will be held to receive input on the scope and content of the environmental information to be included in the EIR, on February 10, 2005 at 6:30 p.m. at Houghton Park Community Center, 6301 Myrtle Ave, Long Beach, California.

Please send your response to Vik Bapna, Senior Civil Engineer at the address shown above. We will need the name of a contact person in your agency.

**Project Title:** Joint Dominguez Gap and DeForest Treatment Wetlands Project

**Project Applicant, if any:**

Date \_\_\_\_\_  
January 21, 2005

Signature   
Vik Bapna

Title Senior Civil Engineer

Telephone (626) 458-4363



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# **Initial Study Joint Dominguez Gap and DeForest Treatment Wetlands Project**

Prepared for  
**County of Los Angeles  
Department of Public Works**

900 South Fremont Avenue  
Alhambra, California 91803

January 2005

**CH2MHILL**  
3 Hutton Centre Drive, Suite 200  
Santa Ana, California 92707

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## SECTION 1

# Environmental Checklist Form

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### 1. Project Title:

Joint Dominguez Gap and DeForest Treatment Wetlands Project

### 2. Lead Agency Name and Address:

County of Los Angeles Department of Public Works  
Watershed Management Division  
900 South Fremont Avenue, 11<sup>th</sup> Floor  
Alhambra, CA 91803-1331

### 3. Contact Person and Phone Number:

Vik Bapna, Senior Civil Engineer  
(626) 458-4363

### 4. Project Location:

The proposed Project is located within the City of Long Beach, California, as shown in Figure 1, and is adjacent to the Los Angeles River (River). Most of the proposed Project site is east of the River and is bound by DeForest Park at the north and the Metro Blue Line at the south. The southern-most segment is west of the River and is bound by the Metro Blue Line at the north and extends approximately 2,000 feet south towards Interstate 405.

### 5. Project Sponsor's Name and Address:

County of Los Angeles Department of Public Works  
900 South Fremont Avenue, 11<sup>th</sup> Floor  
Alhambra, CA 91803-1331

### 6. General Plan Designation:

The proposed Project site is designated as Open Space and Park in the City of Long Beach General Plan.

### 7. Zoning:

The proposed Project site is zoned as Park (P) and Public Right-of-Way (PR).

### 8. Description of Project:

See Section 2.0.

### 9. Surrounding Land Uses and Setting:

Surrounding land uses include single-family residential, mixed-density residential, high-density residential, and public right-of-way. Public right-of-way includes areas used by the County of Los Angeles Department of Public Works, City of Long Beach, California Department of Transportation, Metropolitan Transportation Authority, and Union Pacific Railroad.

**10. Other Public Agencies Whose Approval is Required:**

United States Army Corps of Engineers  
California Department of Fish and Game  
Regional Water Quality Control Board  
City of Long Beach

**Environmental Factors Potentially Affected:**

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Aesthetics                      | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Public Services                               |
| <input type="checkbox"/> Agriculture Resources           | <input type="checkbox"/> Hydrology/Water Quality       | <input type="checkbox"/> Recreation                                    |
| <input type="checkbox"/> Air Quality                     | <input type="checkbox"/> Land Use/Planning             | <input checked="" type="checkbox"/> Transportation/Traffic             |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Mineral Resources             | <input type="checkbox"/> Utilities/Service Systems                     |
| <input type="checkbox"/> Cultural Resources              | <input type="checkbox"/> Noise                         | <input checked="" type="checkbox"/> Mandatory Findings of Significance |
| <input type="checkbox"/> Geology/Soils                   | <input type="checkbox"/> Population/Housing            |  |

**Determination: (To be completed by the Lead Agency)**

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed name

\_\_\_\_\_  
For

**Evaluation of Environmental Impacts:**

- 1) A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) Once the Lead Agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an EIR is required.
- 4) “Negative Declaration: Less Than Significant With Mitigation Incorporation” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” The Lead Agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, “Earlier Analyses,” may be cross-referenced).
- 5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
  - a) Earlier Analysis Used. Identify and state where they are available for review.
  - b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
  - c) Mitigation Measures. For effects that are “Less than Significant with Mitigation Incorporation,” describe the mitigation measures that were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
- 6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
- 7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

- 8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 9) The explanation of each issue should identify:
  - a) the significance criteria or threshold, if any, used to evaluate each question; and
  - b) the mitigation measure identified, if any, to reduce the impact to less than significance.

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>I. AESTHETICS</b> — Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>II. AGRICULTURE RESOURCES</b> — In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>III. AIR QUALITY</b> — Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>IV. BIOLOGICAL RESOURCES</b> — Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>V. CULTURAL RESOURCES</b> — Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>VI. GEOLOGY AND SOILS</b> — Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>VII. HAZARDS AND HAZARDOUS MATERIALS</b> — Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



<b>Issues:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>VIII. HYDROLOGY AND WATER QUALITY</b> — Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level, which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water, which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<b>Issues:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>IX. LAND USE AND PLANNING</b> — Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>X. MINERAL RESOURCES</b> — Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XI. NOISE</b> — Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XII. POPULATION AND HOUSING</b> — Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XIII. PUBLIC SERVICES</b>				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XIV. RECREATION</b> —				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Issues:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
<b>XV. TRANSPORTATION/TRAFFIC</b> — Would the project:				
a) Cause an increase in traffic, which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Result in inadequate parking capacity?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XVI. UTILITIES AND SERVICE SYSTEMS</b> — Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<b>Issues:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant With Mitigation Incorporation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>XVII. MANDATORY FINDINGS OF SIGNIFICANCE –</b>				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## SECTION 2

# Project Description

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## 2.1 Project Summary

The proposed Project is located within the City of Long Beach, as shown in Figure 1, and is comprised of the Dominguez Gap Spreading Grounds and the Market Street Basin. The proposed Project would implement a multipurpose wetland development that would (1) provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation, and education, (2) be safe to use, and (3) require minimal maintenance while maintaining the existing flood control capacity.

## 2.2 Project Objectives

The goals of the proposed Project are to provide treatment wetlands with riparian and wetland habitat, enhanced groundwater recharge, and passive recreational and educational opportunities to the general public. In order to achieve these goals, the following objectives should be accomplished:

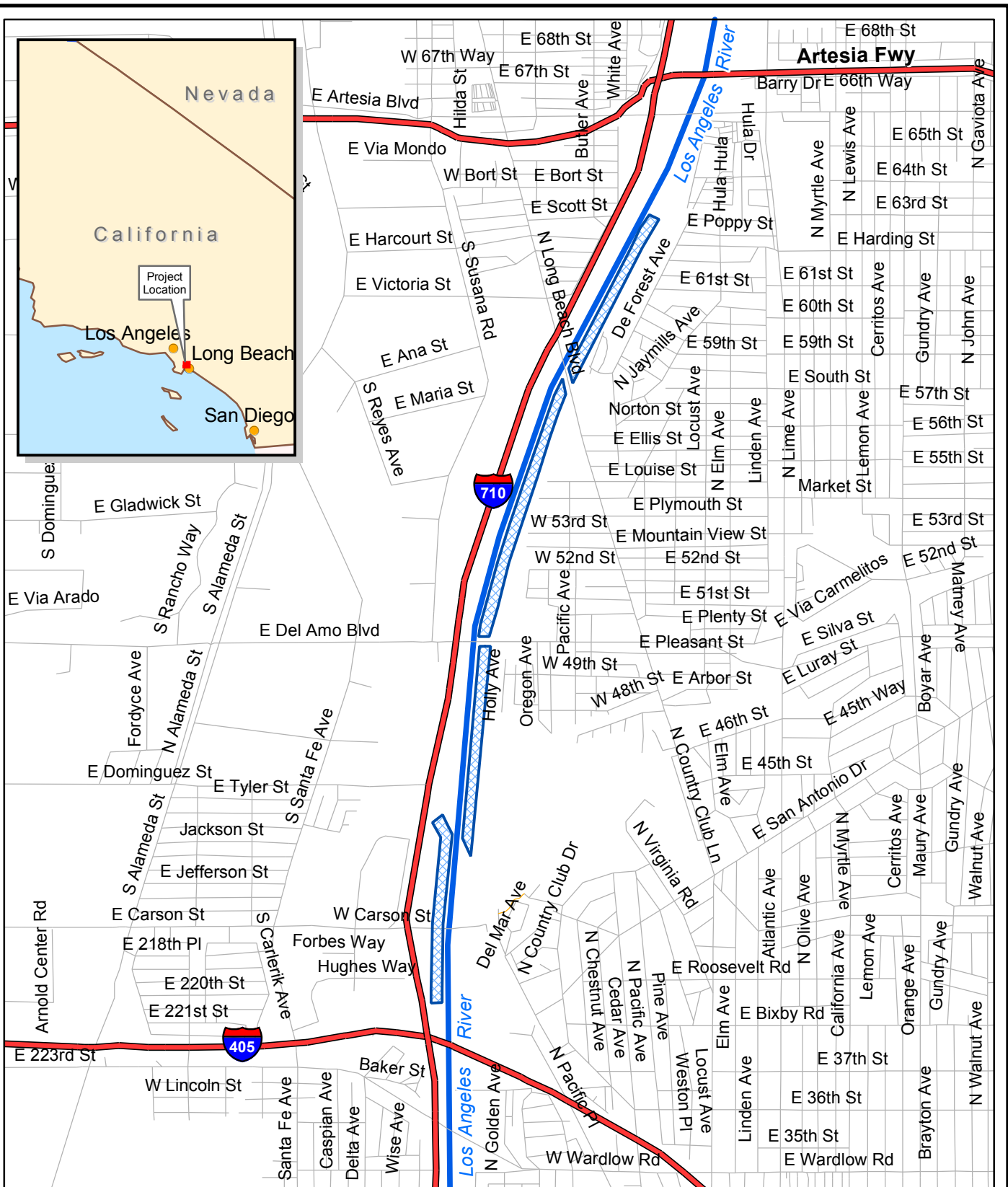
- A community asset that is a destination along the Los Angeles River and within the City of Long Beach
- Improved water quality for groundwater recharge and Los Angeles River discharge
- No net loss of flood control capacity
- No net loss of groundwater recharge capacity
- Improved and expanded habitat for wetland and riparian species
- Expanded passive recreation opportunities for the City of Long Beach and other local communities
- An environmental education resource for local schools and the general public

## 2.3 Description of Existing Conditions

The proposed Project is located within the City of Long Beach and is comprised of the Dominguez Gap Spreading Grounds and the Market Street Basin. See Figure 1.

### 2.3.1 Dominguez Gap Spreading Grounds

The Dominguez Gap Spreading Grounds were constructed in 1958 and are currently owned and operated by the Los Angeles County Department of Public Works (DPW) for stormwater infiltration and detention. It consists of two basins that are divided into eastern and western segments by the River, and are referred to as the East Basin and the West Basin.



## Legend

 Approximate Project Boundary



0 0.25 0.5  
Miles

## Figure 1

### Project Location Map

Joint Dominguez Gap and  
DeForest Treatment Wetlands Project



The West Basin is approximately 15 acres, 350 feet in width at its maximum dimension, 2,000 feet in length, and 25 feet in depth. The banks of the West Basin are sparsely vegetated with non-native invasive weedy species and a few trees. The East Basin is approximately 34 acres, 5,000 feet long, and 280 feet wide. Several storm drains draining areas north and east of the East Basin terminate here and deliver dry and wet weather flows to the basin. The East Basin is further segmented by the Union Pacific Railroad. Low-flow stormwater runoff from the River is currently diverted to the East Basin for groundwater recharge purposes in both the East and West Basin. Overflow from the East Basin is either pumped to the River by the Dominguez Pump Station or retained and ultimately diverted to the West Basin through a 42-inch siphon that passes under the concrete-lined Los Angeles River.

### 2.3.2 Market Street Basin

The Market Street Basin is currently owned and operated by DPW as a detention basin for the purpose of flood control. This 38-acre site borders the River and is 300 feet wide by 6,600 feet long. It consists of two segments that are divided into northern and southern segments by Long Beach Boulevard and are referred to as northern segment and southern segment.

The northern segment runs from DeForest Park on the north to Long Beach Boulevard on the south. This area has been permitted to the City of Long Beach since 1975 for the development and maintenance of a nature trail. It has been planted with a variety of native and non-native trees by community volunteers. Three storm drains (Harding Street Storm Drain, local storm drain at Cedar Street, and the storm drain from DeForest Park) that enter the northern segment support a well-established willow woodland and emergent marsh. The southern segment extends from Long Beach Boulevard south to Del Amo Boulevard, which is the northern end of the Dominguez Gap Spreading Basins. The Market Street Pump Station is located at roughly the center of this segment and the site drains to the pump station. The southern segment is sparsely vegetated with non-native invasive species and actively maintained by DPW as an earthen-trapezoidal basin. The 15-foot by 11-foot Market Street Drain delivers stormwater to the site where it is held until it reaches an elevation of 28 feet above mean sea level (msl). The Market Street Pump Station then pumps water to the River.

## 2.4 Proposed Project Elements

The proposed Project is comprised of the Dominguez Gap Spreading Grounds and the Market Street Basin. The proposed Project elements include the following:

- Construction and operation of an extensive treatment wetland with riparian and wetland habitat in the East Basin
- Construction and operation of riparian habitat along the edges of the West Basin
- Attainment of enhanced groundwater recharge in the West Basin that is equal or greater than the current capacity of the East and West Basins combined
- Construction and operation of wetland and riparian habitat along the northern and southern segments of the Market Street Basin
- Placement of passive recreational features such as trails, bird blinds, shade structures, and interpretive signage at both sites



- Construction and operation of trash removal devices at storm drain outlets to all basins
- Construction and operation of River water diversion structure to divert water to the Market Street Basin
- Utilization of existing diversion from River to East Basin of Dominguez Gap Spreading ground
- Construction and operation of new outlet from West Basin to River

## 2.5 Environmental Evaluation

Responses to the questions of the California Environmental Quality Act (CEQA) Initial Study Environmental Checklist Form for the proposed Project are included in Section 3.0.

## SECTION 3

# Environmental Evaluation

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The following evaluation provides responses to the questions in the Environmental Checklist. A brief explanation for each question in the Environmental Checklist is provided to adequately support each impact determination. All responses consider the whole of the action involved including construction and operational impacts, as well as direct and indirect impacts. Environmental factors potentially affected by the proposed Project are presented below and organized according to the format of the checklist.

## I. Aesthetics

Would the project:

- a) Have a substantial adverse effect on a scenic vista?

**No Impact** – The proposed Project site is contiguous to the Los Angeles River and because of its open space and aquatic character could be considered a scenic vista. However, because the River has been channelized and the proposed Project site is primarily used as a flood control detention basin and for groundwater recharge purposes, much of the natural habitat that contributes to its value as a scenic vista has been degraded. The proposed Project would enhance and revitalize the aesthetic qualities of the proposed Project site consistent with the objectives identified in the Los Angeles River Master Plan (Los Angeles County, 1996) and the City of Long Beach Strategic Plan 2001 – 2010 (City of Long Beach, 2001). Therefore, the proposed Project will have no impact associated with an adverse effect on a scenic vista. This issue will not be addressed in the Environmental Impact Report (EIR).

- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

**No Impact** – The proposed Project site is not located within the vicinity of and is not adjacent to a state scenic highway. Therefore, the proposed Project will have no impact on scenic resources within a state scenic highway. This issue will not be addressed in the EIR.

- c) Substantially degrade the existing visual character or quality of the site and its surroundings?

**Less Than Significant Impact** – The proposed Project would enhance and revitalize the aesthetic qualities of the proposed Project site consistent with the objectives identified in the Los Angeles River Master Plan (Los Angeles County, 1996) and the City of Long Beach Strategic Plan 2001 – 2010 (City of Long Beach, 2001). Construction would be temporary and would primarily include surface grading, excavation, material transport, and planting. Construction would be limited to the proposed Project site and would not substantially degrade the existing visual character or quality of the site and its surroundings. Therefore, the proposed Project will have a less than significant impact associated with substantial degradation of the existing visual character or quality of the site and its surroundings. This issue will not be addressed in the EIR.

- d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

**No Impact** – Temporary construction activities would occur during daylight and no lighting would be needed. The proposed Project would implement a multipurpose wetland development and may include low-level safety lighting. This low-level safety lighting would not create a new source of substantial light or glare. Therefore, the proposed Project will have no impact on day or nighttime views in the area associated with a new source of substantial light or glare. This issue will not be addressed in the EIR.

## II. Agricultural Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997), prepared by the California Department of Conservation, as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

- a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

**No Impact** – No Prime Farmland, Unique Farmland, or Farmland of Statewide Importance occurs on the proposed Project site. Therefore, the proposed Project would not result in a Farmland impact. This issue will not be addressed in the EIR.

- b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

**No Impact** – The proposed Project site is not zoned for agricultural use and is not under a Williamson Act contract. Therefore, the proposed Project would not conflict with zoning for agricultural use, or a Williamson Act contract. This issue will not be addressed in the EIR.

- c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to nonagricultural use?

**No Impact** – The proposed Project would not involve other changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland to nonagricultural use. This issue will not be addressed in the EIR.

## III. Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

This section includes significance criteria established by the South Coast Air Quality Management District (SCAQMD).

### Significance Criteria

Thresholds of significance for air emissions have been established by the SCAQMD and are set forth in the SCAQMD CEQA Air Quality Handbook, November 1993 Revision (SCAQMD, 1993). These thresholds are provided below.

#### Thresholds of Significance for Construction Emissions:

- 75 pounds per day of reactive organic compounds (ROC)
- 100 pounds per day of nitrogen oxides (NO<sub>x</sub>)
- 550 pounds per day of carbon monoxide (CO)
- 150 pounds per day of particulate matter less than 10 microns in diameter (PM<sub>10</sub>)
- 150 pounds per day of sulfur oxides (SO<sub>x</sub>)

Projects in the South Coast Air Basin with construction-related emissions that exceed any of the emissions thresholds may be considered to have significant air quality impacts.

#### Thresholds of Significance for Operational Emissions:

- 55 pounds per day of ROC
- 55 pounds per day of NO<sub>x</sub>
- 550 pounds per day of CO
- 150 pounds per day of PM<sub>10</sub>
- 150 pounds per day of SO<sub>x</sub>

Projects in the South Coast Air Basin with emissions that exceed any of the emissions thresholds may be considered to have significant air quality impacts.

Would the project:

- a) Conflict with or obstruct implementation of the applicable air quality plan?

**Less Than Significant Impact** – The proposed Project construction activities would increase air pollutant emissions. The proposed Project landscape maintenance activities would generate minimal emissions. As described in Response III. b, below, the proposed Project emissions are not anticipated to exceed SCAQMD air quality standards. This issue will be addressed in the EIR.

- b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

**Less Than Significant Impact** – The proposed Project site is located in the South Coast Air Basin. Potential air quality impacts associated with the proposed Project would result from temporary construction activities and landscape maintenance activities. Because the proposed Project would only use a limited number of pieces of heavy equipment during construction, the proposed Project is not anticipated to violate any air quality standards or contribute substantially to an existing or projected air quality violation. This issue will be addressed in the EIR.

- c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?

**Less Than Significant Impact** – Temporary construction activities and ongoing landscape maintenance activities would generate air pollutant emissions. As described in Response III. b, above, the proposed Project emissions are not anticipated to exceed SCAQMD air quality standards. The proposed Project is not expected to result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard. This issue will be addressed in the EIR.

- d) Expose sensitive receptors to substantial pollutant concentrations?

**Less Than Significant Impact** – People who are especially sensitive to air pollution emissions include children, the elderly, persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as sensitive receptors. The proposed Project would result in minimal emissions due to ongoing landscape maintenance; therefore, the proposed Project would not result in substantial pollutant concentrations. Also, because of the limited amount of heavy equipment that would be required for construction, the proposed Project is not expected to expose sensitive receptors to substantial pollutant concentrations. This issue will be addressed in the EIR.

- e) Create objectionable odors affecting a substantial number of people?

**Less Than Significant Impact** – Project activities could create a minimal amount of objectionable odors resulting from the use of heavy equipment. This issue will be addressed in the EIR.

## IV. Biological Resources

Would the project:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

**Less Than Significant Impact** – Degraded marsh and fragmented riparian habitat occur on the Project site. The following vegetation and wildlife communities and man-made features occur on the proposed Project site: ruderal invasive species; disturbed and compacted soils that do not support extensive vegetation; ornamental or landscaped areas; native riparian woodland or emergent wetland in small patches; and developed roadways and levees (DeForest Nature Center and Sixth Street Sites Wetland Feasibility, CH2M HILL, 2002). The biological resources on the proposed Project site are indicative of man-induced disturbance and irregular hydrology resulting in the dominance of upland and non-native (exotic) plant species.

Wildlife and habitat surveys conducted at Dominguez Gap and Market Street Basin in support of the Dominguez Gap Wetland/Recreation Study (CH2M HILL, 2001) and the DeForest Park Wetland Feasibility Study (CH2M HILL, 2002) indicated that the degraded habitats in general would not support special-status species, except for occasional foraging or other transient uses. A number of special-status species either historically occurred in the area or may still be present in the general vicinity of the lower Los Angeles Basin. These species include birds, including least Bell's vireo (*Vireo bellii*

*pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), peregrine falcon (*Falco peregrinus anatum*), California least tern (*Sterna antillarum browni*), California brown pelican (*Pelecanus occidentalis californicus*), and burrowing owl (*Athene cunicularia*); amphibians and reptiles, including California Red-Legged Frog (*Rana aurora draytonii*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), southwestern pond turtle (*Clemmys marmorata pallida*), and two-striped garter snake (*Thamnophis hammondi*); mammals, including Pacific pocketmouse (*Perognathus longimembris pacificus*); fish, including arroyo chub (*Gila orcutti*) and Santa Ana sucker (*Catostomus santaanae*); and plants, including Parish's brittlescale (*Atriplex parishii*), southern tarplant (*Hemizonia parryi* ssp. *australis*), and salt marsh bird's-beak (*Cordylanthus maritimus* ssp. *maritimus*).

Of these species, most are presumed to be extirpated from the vicinity of the proposed Project. Peregrine falcons are resident nesters in the port environment in Long Beach and occasionally may forage in wetland environments along the Los Angeles River. Burrowing owls or burrows were not observed in the field surveys of the site, but sometimes may use degraded urban environments in open grasslands or fields. The San Diego horned lizard was not observed but may occur onsite. Because of the degraded conditions, rare plants are not anticipated; however, botanical surveys have not been conducted. No native fish are anticipated at the Project area. The proposed Project would improve and expand habitat for wetland and riparian species, which would benefit wildlife. Restoration of habitats at the proposed Project site has the potential to attract a number of special-status species that may not currently occur on the proposed Project site. The construction of the proposed Project could result in temporary habitat impacts. This issue will be addressed in the EIR.

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

**Less Than Significant Impact** – The Basins contain degraded marsh and fragmented southern willow scrub riparian habitat. The proposed Project site is owned and operated by DPW and primarily functions for stormwater detention and infiltration for flood management and groundwater recharge. The proposed Project site is limited to these existing Basins, and implementation would not have a substantial adverse effect on riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. Operation of the proposed Project would be beneficial to biological resources, including riparian habitat or other sensitive natural communities. This issue will be addressed in the EIR.

- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

**Less Than Significant Impact** – Degraded wetlands occur onsite. However, the proposed Project site is owned and operated by DPW and was constructed for stormwater detention and infiltration for flood management and groundwater recharge. The proposed Project site is limited to these existing Basins. Therefore, the proposed Project would not require a Section 404 Permit from the U.S. Army Corps of Engineers (USACE) or a Section 401 Water Quality Certification from the Regional Water Quality Control Board (RWQCB), under the Clean Water Act (CWA). Operation of the proposed

Project would be beneficial to waters of the United States. This issue will be addressed in the EIR.

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

**Potentially Significant Impact** – Because the habitat on the proposed Project site is degraded, it serves a limited function both as a local wildlife movement corridor for foraging birds and fish and as a migratory corridor within the Pacific Flyway. Potential impacts from construction noise and dust on birds or other wildlife passing the construction site are anticipated to be temporary and localized, and wildlife would be expected to pass over the site or utilize areas adjacent to the proposed Project site to accomplish local movement during construction. Under the proposed Project, the quality and quantity of wildlife habitat would be improved.

The re-introduction of a persistent standing water source on the proposed Project site would likely result in colonization of the proposed Project site by mosquitoes and midges, which could result in a human health and biological resources impact. The control of potential insect vector species would be integrated into Project operations. Vector management would likely involve a continuation of the current larviciding activities conducted by the Greater Los Angeles County Vector Control District for the Long Beach Environmental Health Bureau. This issue will be addressed in the EIR.

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

**No Impact** – The proposed Project will not conflict with any local policies or ordinances protecting biological resources. This issue will not be addressed in the EIR.

- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

**No Impact** – The proposed Project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Additionally, the proposed Project is consistent with the objectives identified in the Los Angeles River Master Plan (Los Angeles County, 1996) and the City of Long Beach Strategic Plan 2001 – 2010 (City of Long Beach, 2001). This issue will not be addressed in the EIR.

## V. Cultural Resources

Would the project:

- a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?

**No Impact** – The proposed Project is a multipurpose wetland development. No aboveground structures are present within the Project area that could be considered eligible for listing in the California Register of Historical Resources (CRHR). Therefore, the proposed Project will not result in a historical resources impact. This issue will not be addressed in the EIR.

- b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

**No Impact** – Proposed ground-disturbing activities would occur in areas that have been previously disturbed. Therefore, the proposed Project would not result in an archaeological resource impact. This issue will not be addressed in the EIR.

- c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

**No Impact** – Proposed ground-disturbing activities would occur in areas that have been previously disturbed. Therefore, the proposed Project would not result in an impact to paleontological resources. This issue will not be addressed in the EIR.

- d) Disturb any human remains, including those interred outside of formal cemeteries?

**No Impact** – Proposed ground-disturbing activities would occur in areas that have been previously disturbed. Therefore, the proposed Project would not result in an impact to human remains. This issue will not be addressed in the EIR.

## VI. Geology and Soils

Would the project:

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

**No Impact** – The May 1, 1999, updated version of Table 4 from the 1997 edition of Special Publication 42 (California Department of Conservation, Division of Mines and Geology, 1999) shows that the proposed Project is located in an Alquist-Priolo Special Study Zone. The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The main purpose of the Alquist-Priolo Earthquake Fault Zoning Act is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The proposed Project is a multipurpose wetland development and would not expose people or structures to potential substantial adverse effects, including risk of loss, injury, or death due to rupture of a known earthquake fault. This issue will not be addressed in the EIR.

- ii) Strong seismic ground shaking?

**No Impact** – The following regional faults are in the vicinity of the proposed Project site: Norwalk Fault, Newport-Inglewood Fault, Whittier-Elsinore Fault, San Andreas Fault, and San Jacinto Fault. Strong seismic ground shaking could occur at the proposed Project site as a result of seismic activity. The proposed Project is a multipurpose wetland development and would not contribute to the exposure of people or structures to potential substantial adverse effects, including risk of loss, injury, or death due to seismic-related ground shaking. This issue will not be addressed in the EIR.



iii) Seismic-related ground failure, including liquefaction?

**No Impact** – The potential for seismic-related ground failure is associated with the probability of severe ground shaking as a result of an earthquake on a nearby active fault. As stated above, several surrounding regional faults exist and include, the Norwalk Fault, Newport-Inglewood Fault, Whittier-Elsinore Fault, San Andreas Fault, and San Jacinto Fault. Additionally, liquefaction generally occurs in areas of high seismicity where groundwater is shallow and loose granular soils or hydraulic fill soils are present. Because the proposed Project is located within the unconsolidated Los Angeles River floodplain and on a groundwater recharge area, liquefaction could potentially occur at the proposed Project site. Thus, there is potential for seismic-related ground failure, including liquefaction to occur at the proposed Project site. The proposed Project is a multipurpose wetland development and would not contribute to the exposure of people or structures to potential substantial adverse effects, including risk of loss, injury, or death due to seismic-related ground failure, including liquefaction. This issue will not be addressed in the EIR.

iv) Landslides?

**No Impact** – The proposed Project site has a gentle north to south slope and is not located in an area of probable landslides. Therefore, the proposed Project will not result in an impact related to landslides. This issue will not be addressed in the EIR.

b) Result in substantial soil erosion or the loss of topsoil?

**Less Than Significant Impact** – During construction, uncovered soils could temporarily result in soil erosion or loss of topsoil. The proposed treatment wetlands and restored riparian areas would minimize erosion and/or movement of sediment. This issue will be addressed in the EIR.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

**Less Than Significant Impact** – Refer to Responses VI. a. iii and iv, above, for evaluation of liquefaction and landslides. The proposed Project is a multipurpose wetland development. The geology at the proposed Project site could be unstable. The proposed Project would not result in a significant geologic hazard related to soil instability because it does not include any permanent occupied structures and would not result in changes to geology that would impact offsite structures. This issue will be addressed in the EIR.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

**No Impact** – Section 1803.2 of the Uniform Building Code pertains to foundations and requires special design considerations for structures resting on soils with an expansion index greater than 20, as defined in Table 18-1-B of the Uniform Building Code. The proposed Project is a multipurpose wetland development. Additionally, any excavation compaction will be placed to meet standard engineering design requirements. Therefore, the proposed Project would not result in an expansive-soil impact. This issue will not be addressed in the EIR.

- e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

**No Impact** – No septic tanks or alternative wastewater disposal systems will serve the proposed Project. Therefore, the proposed Project will not result in impacts related to septic tanks or wastewater disposal systems. This issue will not be addressed in the EIR.

## VII. Hazards and Hazardous Materials

Would the project:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

**No Impact** – The proposed Project would use construction materials consistent with existing local, state, and federal regulations. The proposed Project is not anticipated to generate any substantial quantities of hazardous materials. Therefore, the proposed Project is not anticipated to result in an adverse impact related to the transport, use, or disposal of hazardous materials. This issue will not be addressed in the EIR.

- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

**No Impact** – The proposed Project is a multipurpose wetland development and is not anticipated to generate a substantial amount of hazardous materials. Storm drains that flow to the proposed Project site could potentially release hazardous materials into the environment. However, this potential release of hazardous materials into the environment would not be created by the proposed Project. Therefore, the proposed Project would not create a significant hazard to the public or environment. This issue will not be addressed in the EIR.

- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

**No Impact** – The proposed Project is not anticipated to generate a substantial amount of hazardous emissions or handle acutely hazardous materials, substances, or waste. Therefore, the proposed Project would not result in an impact on an existing or proposed school within 1/4 mile of the proposed Project site. This issue will not be addressed in the EIR.

- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

**No Impact** – Based on a review of the most recent Department of Toxic Substances Control, Hazardous Waste and Substances Site List (Cortese List), no known significant hazardous material sites occur within the proposed Project site. Therefore, the proposed Project would not result in a hazardous materials site impact. This issue will not be addressed in the EIR.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

**No Impact** – The proposed Project site is not located within an airport land use plan. Therefore, the proposed Project would not result in an airport-related safety hazard for people residing or working in the Project area. This issue will not be addressed in the EIR.

- f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

**No Impact** – No private airstrips are near the proposed Project site. Therefore, the proposed Project would not result in a safety hazard impact related to private airstrips. This issue will not be addressed in the EIR.

- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

**No Impact** – Public roads adjacent to the proposed Project site will remain open during construction. In addition, the contractor will be required to abide by local requirements set by the City of Long Beach and ensure sufficient access for emergency vehicles. Therefore, the proposed Project is not anticipated to interfere with an adopted emergency response plan or emergency evacuation plan. This issue will not be addressed in the EIR.

- h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

**Less Than Significant Impact** – Part of the proposed Project site is adjacent to open space and residential areas. The proposed Project is adjacent to the Los Angeles River and much of the vegetation in the area is wetland vegetation, which is not very flammable. It is possible that construction activities could accidentally start a fire; however, the probability is low. The proposed Project would not substantially increase the risk of wildland fires or involve the construction of residences adjacent to wildlands. Therefore, the construction and operation of the proposed Project is not anticipated to result in a significant wildland fire impact. This issue will be addressed in the EIR.

## VIII. Hydrology and Water Quality

Would the project:

- a) Violate any water quality standards or waste discharge requirements?

**Less Than Significant Impact** – One of the proposed Project objectives is to improve the water quality of discharges into the Los Angeles River. The proposed Project would result in improved water quality discharge to the Los Angeles River. Temporary impacts to surface waters, associated with stormwater flow across the proposed Project site, could occur during Project construction. The contractor would be required to implement Best Management Practices (BMPs) as required by the National Pollutant Discharge Elimination System (NPDES) permit issued to the County of Los Angeles by the RWQCB to minimize construction impacts on water quality. Therefore, the proposed

Project would have a less than significant impact on water quality standards. This issue will be addressed in the EIR.

- b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

**No Impact** – One of the proposed Project objectives identified in the Project description is to ensure no net loss of groundwater recharge capacity. Therefore, implementation of the proposed Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. This issue will not be addressed in the EIR.

- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

**Less Than Significant Impact** – The proposed Project is a multipurpose wetland development and would restore degraded riparian habitat areas adjacent to the Los Angeles River. While the integrity of the natural drainage pattern would be preserved, some alterations may occur to provide conditions that best support the establishment and function of treatment wetlands. Following construction, newly regraded banks could be subject to erosion. However, the establishment of treatment wetlands would protect the proposed Project area from substantial erosion or siltation onsite or offsite. Therefore, the proposed Project will result in a less than significant impact related to the alteration of the course of a stream or river in a manner that would result in substantial erosion or siltation onsite or offsite. This issue will be addressed in the EIR.

- d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site?

**No Impact** – An objective of the proposed Project is no net loss of flood control capacity. Therefore, the proposed Project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite. This issue will not be addressed in the EIR.

- e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

**No Impact** – An objective of the proposed Project is no net loss of flood control capacity and improved water quality for groundwater recharge and Los Angeles River discharge. Therefore, the proposed Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. This issue will not be addressed in the EIR.

- f) Otherwise substantially degrade water quality?

**No Impact** – An objective of the proposed Project is improved water quality for groundwater recharge and Los Angeles River discharge. Therefore, the proposed Project would not otherwise substantially degrade water quality. This issue will not be addressed in the EIR.

- g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

**No Impact** – The proposed Project does not include housing development. The proposed Project would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. This issue will not be addressed in the EIR.

- h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

**Less Than Significant Impact** – During construction, if surface water is present, flows will be temporarily diverted within the Project site, around areas where activities are occurring. In general, temporary diversion will include temporary placement of a sandbag bermed cofferdam upstream of activities and a pipe flume to bypass the activities. Surface water flows will be released downstream of activities within the Project site. These temporary structures would not substantially impede or redirect flood flows. The proposed Project would not place any permanent structures within a 100-year flood hazard area. Therefore, the proposed Project would not result in a significant adverse impact related to impeding or redirecting flood flows within a 100-year flood hazard area. This issue will be addressed in the EIR.

- i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

**Less Than Significant Impact** – Proposed Project construction activities would generally not occur during periods of flooding. However, during the brief period at the beginning of a flood, the safety of construction personnel could be at risk, but this risk is not considered to be significant because construction personnel would vacate the site at the early signs of a flood event. Following construction, people or structures would not be exposed to significant risk of loss, injury, or death involving flooding. Therefore, the proposed Project is not anticipated to result in a significant adverse safety risk impact related to flooding. This issue will be addressed in the EIR.

- j) Inundation by seiche, tsunami, or mudflow?

**No Impact** – The proposed Project site is located more than several miles from the Pacific Ocean and is north of the 405 Freeway. Additionally, the proposed Project site is of relatively flat topography. For these reasons, it is not likely that it would be inundated by a seiche, tsunami, or mudflow. This issue will not be addressed in the EIR.

## IX. Land Use and Planning

Would the project:

- a) Physically divide an established community?

**No Impact** – The proposed Project is a multipurpose wetland development and would restore degraded riparian habitat areas adjacent to the Los Angeles River. This would not disrupt the physical arrangement of the community. Therefore, the proposed Project would not physically divide an established community. This issue will not be addressed in the EIR.

- b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

**No Impact** – The proposed Project is a multipurpose wetland development and would restore degraded riparian habitat areas adjacent to the Los Angeles River. The proposed Project is consistent with the objectives identified in the Los Angeles River Master Plan (Los Angeles County, 1996) and the City of Long Beach Strategic Plan 2001 – 2010 (City of Long Beach, 2001). Therefore, the proposed Project will not conflict with any applicable land use plan, policy, or regulation. This issue will not be addressed in the EIR.

- c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

**No Impact** – The proposed Project is consistent with the Los Angeles River Master Plan (Los Angeles County, 1996), the City of Long Beach Strategic Plan 2001 – 2010 (City of Long Beach, 2001), and the Open Space objectives for the preservation of natural resources identified in the City of Long Beach General Plan. This issue will not be addressed in the EIR.

## X. Mineral Resources

Would the project:

- a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

**No Impact** – The proposed Project would not use mineral resources and would not affect the availability of any known mineral resources. Therefore, the proposed Project will not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. This issue will not be addressed in the EIR.

- b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

**No Impact** – The proposed Project is a multipurpose wetland development and would restore degraded riparian habitat areas adjacent to the Los Angeles River. This would not result in the loss or availability of a locally important mineral resource. Therefore, the

proposed Project will not result in the loss of availability of a locally important mineral resource recovery site. This issue will not be addressed in the EIR.

## XI. Noise

Would the project result in:

- a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

**Less Than Significant Impact** – Noise levels within the proposed Project site would increase during construction activities. However, the impact is temporary and would be subject to existing noise ordinance standards set by the U.S. Occupational Safety and Health Administration (OSHA). The contractor would be required to comply with the construction hours specified in the County of Los Angeles and the City of Long Beach noise control ordinances. Overall, because the construction period would be short, the proposed Project would not expose people to severe noise levels for an extended period of time, thus the impact to severe noise levels is considered less than significant. This issue will be addressed in the EIR.

- b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

**No Impact** – Construction of the proposed Project would not require the substantial duration or amount of activities commonly known to produce excessive groundborne vibration or noise (e.g., pile driving). Therefore, the proposed Project would not result in the exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels. This issue will not be addressed in the EIR.

- c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

**No Impact** – Operation and maintenance of the facilities would not result in a permanent increase in noise. Therefore, the proposed Project will have no impact associated with a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. This issue will not be addressed in the EIR.

- d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

**Less Than Significant Impact** – Refer to Response XI. a, above.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

**No Impact** – The proposed Project site is not located within an airport land use plan and is not within 2 miles of a public airport or public use airport. Therefore, the proposed Project would not result in the exposure of people residing or working in the Project area to excessive aircraft noise levels. This issue will not be addressed in the EIR.

- f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

**No Impact** – No private airstrips are near the proposed Project site. Therefore, the proposed Project would not result in a private airstrip noise impact. This issue will not be addressed in the EIR.

## XII. Population and Housing

Would the project:

- a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

**No Impact** – The proposed Project is a multipurpose wetland development and would restore degraded riparian habitat areas adjacent to the Los Angeles River. This would not result in an increase in road or infrastructure capacity. Additionally, new homes and businesses are not part of the proposed Project. Therefore, the proposed Project will not result in an impact related to inducing population growth. This issue will not be addressed in the EIR.

- b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

**No Impact** – The proposed Project would not displace any existing housing. Therefore, the proposed Project would not result in a housing displacement impact. This issue will not be addressed in the EIR.

- c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

**No Impact** – The proposed Project would not displace people. Therefore, the proposed Project would not necessitate construction of replacement housing. This issue will not be addressed in the EIR.

## XIII. Public Services

- a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?

Police protection?

Schools?

Parks?

Other public facilities?

**Less Than Significant Impact** – The proposed Project is a multipurpose wetland development and would restore degraded riparian habitat areas adjacent to the Los Angeles River. An objective of the proposed Project includes an environmental education resource for local schools and the general public. As a consequence of the proposed Project, additional police patrol may be necessary. However, this would have a



less than significant impact or need for fire protection, police protection, schools, parks, or other public facilities. This issue will be addressed in the EIR.

## XIV. Recreation

- a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

**No Impact** – An objective of the proposed Project is to expand passive recreation opportunities for the City of Long Beach and other local communities. The proposed Project would provide additional passive recreational space and would not increase the use of existing parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, the proposed Project would not impact on the use of existing neighborhood and regional parks or other recreational facilities. This issue will not be addressed in the EIR.

- b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

**Less Than Significant Impact** – An objective of the proposed Project is to expand passive recreation opportunities for the City of Long Beach and other local communities. However, in its entirety, the proposed Project is a multipurpose wetland development and would restore degraded riparian habitat areas adjacent to the Los Angeles River. Therefore, the proposed Project would result in a less than significant environmental effects associated with the construction or expansion of recreational facilities. This issue will be addressed in the EIR.

## XV. Transportation/Traffic

Would the project:

- a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?

**Potentially Significant Impact** – The passive recreation component of the proposed Project would result in an increase in traffic. Therefore, the proposed Project could result in an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system. This issue will be addressed in the EIR.

- b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?

**Potentially Significant Impact** – The passive recreation component of the proposed Project would result in an increase in traffic. Therefore, the proposed Project could exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways. This issue will be addressed in the EIR.

- c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

**No Impact** – The proposed Project site is not immediately adjacent to an existing airport. The proposed Project is a multipurpose wetland development that would not result in an increase in air traffic levels or a change in location of air traffic patterns. Therefore, the proposed Project would not change air traffic patterns. This issue will not be addressed in the EIR.

- d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

**Less Than Significant** – The proposed Project will include a new parking lot and access to this parking lot, which could result in an increase in traffic hazards. The EIR will address potential hazards associated with parking lot access.

- e) Result in inadequate emergency access?

**No Impact** – The proposed Project is a multipurpose wetland development and is not expected to result in inadequate emergency access. This issue will not be addressed in the EIR.

- f) Result in inadequate parking capacity?

**Potentially Significant Impact** – The proposed Project is a multipurpose wetland development adjacent to an existing residential area. The proposed Project would result in an increase in the number of people who visit the proposed Project site, and their additional vehicles may exceed the parking capacity of the area adjacent to the proposed Project site. This issue will be addressed in the EIR.

- g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

**No Impact** – An existing bike path is located on the east side of the Los Angeles River. The proposed Project would not impact existing or planned bike paths. The proposed Project would not conflict with adopted policies, plans, or programs supporting alternative transportation. This issue will not be addressed in the EIR.

## XVI. Utilities and Service Systems

Would the project:

- a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

**No Impact** – The proposed Project would not generate sewage. Therefore, the proposed Project would not exceed wastewater treatment requirements of the applicable RWQCB. This issue will not be addressed in the EIR.

- b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

**No Impact** – The proposed Project would not generate sewage and would not result in a substantial demand for water. Therefore, the proposed Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. This issue will not be addressed in the EIR.

- c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

**No Impact** – The proposed Project would not construct new stormwater drainage facilities or expand existing facilities. This issue will not be addressed in the EIR.

- d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

**No Impact** – Use would be primarily for irrigating vegetation and would not result in a substantial demand for water. No operation staff would occupy the site and visitors' demands for water would be limited to use of onsite drinking fountains. Therefore, existing water supplies would be sufficient to serve the proposed Project. This issue will not be addressed in the EIR.

- e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

**No Impact** – The existing activities on the proposed Project site do not generate sewage. The proposed Project would not generate sewage. Therefore, the proposed Project would result in a determination by the wastewater treatment provider that serves the Project vicinity that it has adequate capacity to serve the projected demand of the Project in addition to the existing commitments of the provider. This issue will not be addressed in the EIR.

- f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

**No Impact** – The proposed Project construction and maintenance would generate minimal green waste and small amounts of debris or solid waste. The proposed Project waste would be disposed of at an existing permitted landfill. This issue will not be addressed in the EIR.

- g) Comply with federal, state, and local statutes and regulations related to solid waste?

**No Impact** – The proposed Project would comply with federal, state, and local statutes and regulations related to solid waste. This issue will not be addressed in the EIR.

## XVII. Mandatory Findings of Significance

- a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

**Potentially Significant Impact** – The proposed Project could result in potentially significant impacts to biological resources associated with vector control. As described in Response IV. d, above, re-introduction of a persistent standing water source on the proposed Project site would likely result in colonization of the proposed Project site by mosquitoes and midges, which could result in a human health and biological resources

impact. The control of potential insect vector species would be integrated into Project operations. Vector management would likely involve a continuation of the current larviciding activities conducted by the Greater Los Angeles County Vector Control District or would be completed by the City of Long Beach Department of Health and Human Services.

- b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

**Potentially Significant Impact** – The proposed Project is in an urban area. The proposed Project would result in some beneficial impacts during operations such as improved water quality, habitat, and recreation opportunities. The proposed Project would result in some temporary environmental impacts that are potentially significant and some that are less than significant. The combination of these Project-specific impacts with the impacts of past, present, and reasonably foreseeable future projects could result in a significant impact. Therefore, the proposed Project would result in a potentially significant cumulative impact.

- c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

**No Impact** – The proposed Project will not have significant environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly.

## SECTION 4

# Preparers and Contributors

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### **County of Los Angeles Department of Public Works**

Daniel B. Sharp – Project Manager

### **CH2M HILL**

Gretchen Honan – Project Manager, Resource Specialist

Kathleen Higgins – Senior Engineer

Curt Roth – Associate Engineer

James Gorham – Senior Biologist

Greg Graber – Senior Planner

Matt Gordon – Associate Planner

## SECTION 5

# References

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CH2M HILL. 2001. *Dominguez Gap Wetlands/Recreation Study*, prepared for Los Angeles County Department of Public Works. February.

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# Dominguez Gap and DeForest Park Wetlands project.

## Public Scoping Meeting - Feb 10, 2005

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Fax # 714-429-2050	Fax #	

## Public Scoping Meeting

## Written Comment Form

County of Los Angeles Department of Public Works

Joint Dominguez Gap and DeForest Treatment Wetlands Project

February 10, 2005

Feb-17 + retn to Irene  
who will mail on to Vik

4853

Name SUZANNE MOORE  
 Address 4899 Holly LB 90805  
 Organization \_\_\_\_\_

The County of Los Angeles Department of Public Works welcomes your participation. Please hand in this form by the end of this evening's public scoping meeting or mail by February 22, 2005 to:

Vik Bapna  
 County of Los Angeles Department of Public Works  
 Watershed Management Division  
 800 South Fremont Ave, 11<sup>th</sup> Floor  
 Alhambra, CA 91803

Comments (attach additional sheets if necessary):

There are three problems here: 1) stagnant water in the proposed "wetlands" 2) erosion, flooding, + collapse of the flood control channel embankments due to neglect of maintenance by DPW 3) ongoing + increasing noise, dust, + dust collection caused by increasing illegal use of bikeway + bridal path by loud, motorized vehicles.

1) during early spring there is a rich wildlife habitat in Dominguez gap. Species include ducks, quacks, egrets, rabbits, turtles and squirrels. By late Spring the water has grown stagnant, green scum forms, and all the animals are driven out. All that is left is mosquito habitat. a way must be found to keep H2O recharged.

2) The county needs to plant ground cover to prevent dust, erosion, and collapse of the dirt embankment. apparently this has long been promised but never done.

3) Motorized bikes are driving animals + humans away, stirring up huge clouds of dust + noise. L.A.P.D. does not enforce the law.

I would like representatives from the Mayor's office and the City Council member to attend this meeting to address this issue.

Residents should possibly consider a class action lawsuit against County + City for a pattern + practice of neglect + non-enforcement, adversely affecting the quality of residents' lives.

FOR MORE INFORMATION, CONTACT:

Post-It™ brand fax transmittal memo 7671		# of pages ▶ 5
To <u>Matt Gordon</u>	From <u>Don Sharp</u>	
Co. <u>CH2M HILL</u>	Co. <u>LACDPW</u>	
Dept. _____	Phone # <u>626-458-4345</u>	
Fax # <u>714-429-2050</u>	Fax # _____	

arp  
 artment of Public Works  
 ament Division  
 Ave, 11<sup>th</sup> Floor  
 A 91803  
 -4345



## Public Scoping Meeting

## Written Comment Form

County of Los Angeles Department of Public Works

Joint Dominguez Gap and DeForest Treatment Wetlands Project

February 10, 2005

Name MELVIN & JUANITA WICKAddress 4841 HOLLY AVE.LONG BEACH, CA 90805

Organization \_\_\_\_\_

The County of Los Angeles Department of Public Works welcomes your participation. Please hand in this form by the end of this evening's public scoping meeting or mail by February 22, 2005 to:

Vik Bapna  
County of Los Angeles Department of Public Works  
Watershed Management Division  
900 South Fremont Ave, 11<sup>th</sup> Floor  
Alhambra, CA 91803

Comments (attach additional sheets if necessary):

We have lived in this Del Amo Mobilhome Park since 1978. We had vegetation on the hill behind us until eight or more years ago. Last Feb. 2004, we had a very large sink hole behind our home in the hill. We had rain pouring in our yard and silt under our home and across the street. The fire Dept. came and diverted the water to the other side of the hill and put a tarp over the large sink hole. It deposited about 6 to 8 inches of silt on the right of our home and in the back. The fireman said we should have our home leveled. We had just had it done and could not afford to do it again. The people that came out said they would not pay to have our home leveled. This year Feb. 2005 the county came and dug a ditch behind our home so the water would not run under our house. During the heavy rain in Dec. 2004 and now in Feb. the ditch fills up to the tarp. This is a temporary solution because the hill has eroded and the silt is at the bottom of the hill then the ditch and then the fence.

FOR MORE INFORMATION, CONTACT:

Dan Sharp

County of Los Angeles Department of Public Works  
Watershed Management Division  
900 South Fremont Ave, 11<sup>th</sup> Floor  
Alhambra, CA 91803  
(626) 458-4345

London 04 Feb 22

## Public Scoping Meeting

## Written Comment Form

County of Los Angeles Department of Public Works

Joint Dominguez Gap and DeForest Treatment Wetlands Project

February 10, 2005

Name

James Hipple  
Trene S. Hobbs -

Address

4853 Holly Ave.

Organization

Long Beach, CA 90805

Del Amo Mobil Home Comm

Residents

5628586512

Comments (attach additional sheets if necessary):

The County of Los Angeles Department of Public Works welcomes your participation. Please hand in this form by the end of this evening's public scoping meeting or mail by February 22, 2005 to:

Vik Bapna

County of Los Angeles Department of Public Works

Watershed Management Division

900 South Fremont Ave, 11<sup>th</sup> Floor

Alhambra, CA 91803

Obvious that the Dominguez Gap Site was not seriously considered when it came to Residents.

Maintenance Agreement should be decided between County & City of Long Beach regarding picking up trash, mosquitos, flies, swampholes, & security.

The east side of the horse trail has eroded, causing flooding to our area, sinkholes & unleveling of our mobil homes. In addition the dust picked up by the horses bikes moped & walkers is terrible. Also people with dogs let them poop next to our fence, of course the odor is horrendous & we can't enjoy a BBQ or sit in our patios.

Something should be done about the flies & odors from the horse stables who also house chickens goats & other farm animals - THIS IS A HEALTH CONCERN FOR VECTOR! It looks like a Shanty Town!

FOR MORE INFORMATION, CONTACT:

Dan Sharp

County of Los Angeles Department of Public Works

Watershed Management Division

900 South Fremont Ave, 11<sup>th</sup> Floor

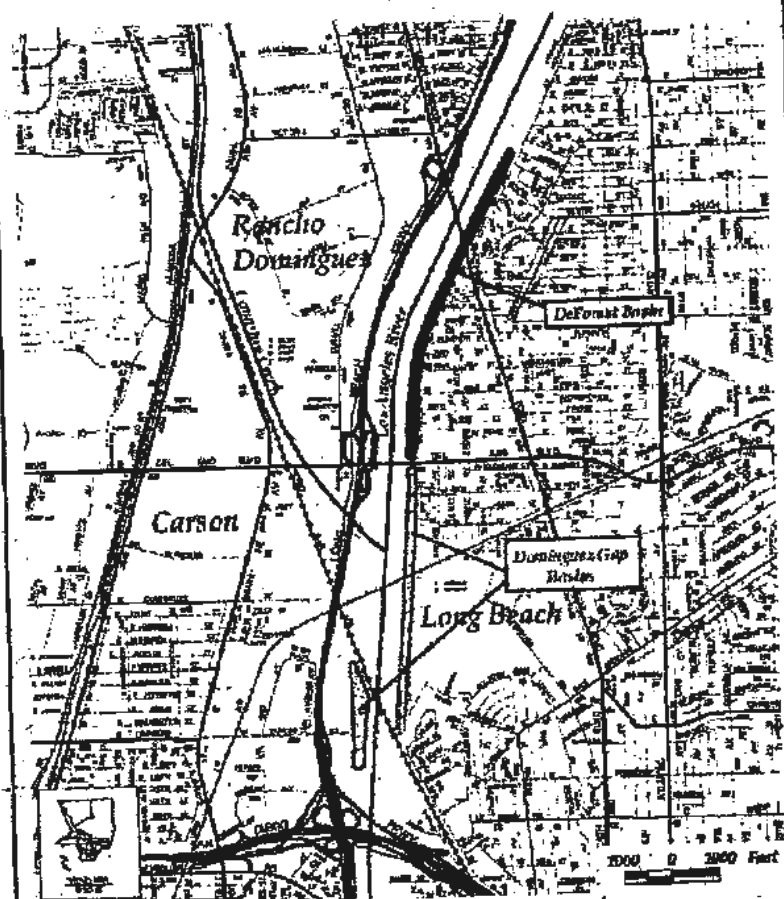
Alhambra, CA 91803

(626) 458-4345

How many people live there?

# DOMINGUEZ GAP AND DEFOREST PARK WETLANDS

Dominguez Gap and DeForest Park Wetlands



## BACKGROUND

Los Angeles County Department of Public Works (DPW) and the City of Long Beach are preparing the final design for the construction of the Dominguez Gap and DeForest Park Wetlands. This project will enhance the current spreading grounds and detention basins to include a functional, multipurpose wetlands and groundwater recharge.

## DOMINGUEZ GAP WETLANDS

The Dominguez Gap site consists of two water detention basins (east and west) located in Long Beach, on the east and west sides of the Los Angeles River, between Del Amo Boulevard and the Long Beach 710 Freeway. Currently, the Dominguez Gap Site is used to recharge local groundwater resources and manage stormwater.

## DEFOREST PARK WETLANDS

The DeForest Park site includes the water detention basin along the east side of the Los Angeles River, north of Del Amo Boulevard to just north of Long Beach Boulevard. Currently, the DeForest Park site is used to manage stormwater by retaining local flows before they are pumped directly to the Los Angeles River. The northern portion of the DeForest Park site also provides for public recreation.

## PROJECT RESULTS

The improvements to the sites are expected to create sustainable wildlife habitat and provide opportunities for public use of the site for educational purposes and passive recreational activities such as birdwatching, hiking, bicycling, and horseback riding. The project will also provide water quality benefits from wetland treatment of the runoff from the surrounding area as well as provide enhanced groundwater recharge.

*County moved vegetation off of hill behind our mobile homes. We have had erosion and sink holes in the hill ever since.*

*They dug a ditch which kept the water from flooding our yard and under our home.*

*If the water stands all the time we will have mosquitoes.*



CH2M HILL  
Long Beach, Inc.  
ARCHITECTS

See additional graphics on the reverse side of this handout.

## Public Scoping Meeting

## Written Comment Form

County of Los Angeles Department of Public Works

Joint Dominguez Gap and DeForest Treatment Wet

February 10, 2005

Post-It™ brand fax transmittal memo 7671 # of pages 1

To	Matt Gordon	From	Dan Sharp
Co.	CH2M HILL	Co.	LACDPW
Dept.		Phone #	626-458-4345
Fax #	714-429-2050	Fax #	

Name Joyce FARRAddress 4857 HOLLY, SPAC 117  
LONG BEACH CA 90805

Organization \_\_\_\_\_

DRL AND MOBIL HOME PARK

DOMINGUEZ GAP

Comments (attach additional sheets if necessary):

The County of Los Angeles Department of Public Works welcomes your participation. Please hand in this form by the end of this evening's public scoping meeting or mail by February 22, 2005 to:

Wik Bapna

County of Los Angeles Department of Public Works

Watershed Management Division

900 South Fremont Ave, 11<sup>th</sup> Floor

Alhambra, CA 91803

AS A RESIDENT JUST EAST OF THE LOS ANGELES RIVER I AM GRAVELY CONCERNED FOR MY SAFETY, HEALTH AND THE PRESERVATION OF MY MOBILE HOME - MY ONLY HOME - AT THE AGE OF SIXTY-NINE IT IS AN IMPOSSIBILITY TO PURCHASE ANOTHER HOME SINCE MY ONLY INCOME IS SOCIAL SECURITY. MY HOME IS ADJACENT TO THE L.A. RIVER BANK LOVER

EVEN BEFORE THE HEAVY AND RECORD BREAKING RAINFALL THIS WINTER OF 2004/2005 I BECAME AWARE THAT THE GROUND IS CONSTANTLY WET UNDER MY MOBILE HOME AND WET EVEN BY THE TREE AND UNDER MY PATIO COVER. ALSO, MY CAT BECOMES ILL IF I ALLOW HIM TO EAT THE GRASS THERE (WHICH I HAD LET HIM TO DO FOR 8 YRS). SO IT MUST BE CONTAMINATED WATER SEEPING FROM THE SPREADING GROUND OR <sup>STORMWATER DETENTION BASIN</sup> WATERSHED OF THE LOS ANGELES RIVER

SINCE THE 1998/1999 CONGRESSIONALLY AUTHORIZED LOS ANGELES COUNTY DRAINAGE AREA FLOOD CONTROL PROJECT WHICH INCLUDED US ARMY CORPS OF ENGINEERS, LOS ANGELES COUNTY DEPT. OF PUBLIC WORKS, THE CONTRACTOR AWARDED BY THE CORPS WAS BRUTO CO ENGINEERING AND CONSTRUCTION (INDIANA)

SINCE THAT TIME WE HAVE HAD AT LEAST 3 CAVING IN OF THE HILL/DYKE RIGHT FOR MORE INFORMATION, CONTACT: BEHIND OUR HOMES.

WE ARE FRIGHTFULLY CONCERNED OF OUR HOMES SINKING INTO

Dan Sharp  
County of Los Angeles Department of Public Works

Watershed Management Division

900 South Fremont Ave, 11<sup>th</sup> Floor

Alhambra, CA 91803

(626) 458-4345

A "SINK HOLE"

DUE TO THE WET AND MOVING SOILS, AND APPARENT INSTABILITY OF THE RIVER DYKE, BACKSLOPE OR ? OR LEVEE.

OUR HOMES ARE AT STAKE!

## Public Scoping Meeting

## Written Comment Form

## County of Los Angeles Department of Public Works

## Joint Dominguez Gap and DeForest Treatment Wetlands Project

February 10, 2005

Name Emilia Malanum  
Address 4838 Holly  
L.B., 90805  
Organization Del Amo Mobile Homes

The County of Los Angeles Department of Public Works welcomes your participation. Please hand in this form by the end of this evening's public scoping meeting or mail by February 22, 2005 to:

Vik Bapna  
County of Los Angeles Department of Public Works  
Watershed Management Division  
900 South Fremont Ave, 11<sup>th</sup> Floor  
Alhambra, CA 91803

Comments (attach additional sheets if necessary):

- flooding from the embankment as a result of rain
- Stagnant water in front of stairs caused inconvenience
- dust, debris, discoloration upon drying
- concern on mosquitoes, odor, horses manure, trash
- concern on formation of mold and seepage of water under the homes

FOR MORE INFORMATION, CONTACT:

Dan Sharp  
County of Los Angeles Department of Public Works  
Watershed Management Division  
900 South Fremont Ave, 11<sup>th</sup> Floor  
Alhambra, CA 91803  
(626) 458-4345



South Coast  
Air Quality Management District  
21865 Copley Drive, Diamond Bar, CA 91765-4182  
(909) 396-2000 • <http://www.aqmd.gov>

January 21, 2005

Mr. Vik Bapna  
Senior Civic Engineer  
County of Los Angeles Dept. of Public Works  
Watershed Management Division  
900 South Fremont Ave., 11<sup>th</sup> Floor  
Alhambra, CA 92803-1331

Dear Mr. Bapna:

**Notice of Preparation of a Draft Environmental Impact Report for  
Joint Dominguez Gap and DeForest Treatment Wetlands Project**

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The SCAQMD's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the Draft Environmental Impact Report (EIR). Please send the SCAQMD a copy of the Draft EIR upon its completion.

**Air Quality Analysis**

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. Alternatively, lead agency may wish to consider using the California Air Resources Board (CARB) approved URBEMIS 2002 Model. This model is available on the CARB Website at: [www.arb.ca.gov](http://www.arb.ca.gov).

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air

quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis. It is recommended that lead agencies for projects generating or attracting vehicular trips, especially heavy-duty diesel-fueled vehicles, perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis") can be found on the SCAQMD's CEQA webpages at the following internet address: [http://www.aqmd.gov/ceqa/handbook/diesel\\_analysis.doc](http://www.aqmd.gov/ceqa/handbook/diesel_analysis.doc). An analysis of all toxic air contaminant impacts due to the decommissioning or use of equipment potentially generating such air pollutants should also be included.

#### **Mitigation Measures**

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate significant adverse air quality impacts. To assist the Lead Agency with identifying possible mitigation measures for the project, please refer to Chapter 11 of the SCAQMD CEQA Air Quality Handbook for sample air quality mitigation measures. Additionally, SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook contain numerous measures for controlling construction-related emissions that should be considered for use as CEQA mitigation if not otherwise required. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed.

#### **Data Sources**

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's World Wide Web Homepage (<http://www.aqmd.gov>).

The SCAQMD is willing to work with the Lead Agency to ensure that project-related emissions are accurately identified, categorized, and evaluated. Please call Charles Blankson, Ph.D., Air Quality Specialist, CEQA Section, at (909) 396-3304 if you have any questions regarding this letter.

Sincerely,



Steve Smith, Ph.D.

Program Supervisor, CEQA Section  
Planning, Rule Development and Area Sources

SS:CB:li

LAC050121-02LI  
Control Number

State of California - The Resources Agency

ARNOLD SCHWARZENEGGER Governor

**DEPARTMENT OF FISH AND GAME**

<http://www.dfg.ca.gov>  
4949 Viewridge Avenue  
San Diego, CA 92123  
(858) 467-4201

**FACSIMILE TRANSMITTAL**

**TO:** Mr. V k Bapna, Senior Civil  
Engineer  
County of Los Angeles  
Department of Public Works  
Watershed Management Division  
900 South Fremont Avenue, 11<sup>th</sup>  
Floor  
Alhambra, CA 92803-1331

**FROM:** Leslee Newton-Reed  
Habitat Conservation Planning  
South Coast Region (5)  
(858) 467-4821 phone  
(858) 467-4235 fax

**FAX:** 626-457-1526

**DATE:** February 17, 2005

**NUMBER**  
**OF PAGES:** 10, including cover

**SUBJECT:** SCH# 2005011101

**COMMENTS:**

Attached are the Department's comments on the Notice of Preparation of a Draft Environmental Impact Report for Joint Dominguez Gap and DeForest Treatment Wetlands Project, City of Long Beach, Los Angeles County (SCH # 2005011101). Thank you.

**IF YOU DO NOT RECEIVE ALL OF THE PAGES INDICATED  
PLEASE CALL THE SENDER AS SOON AS POSSIBLE.**



State of California - The Resources Agency

ARNOLD SCHWARZENEGGER Governor

**DEPARTMENT OF FISH AND GAME**

<http://www.dfg.ca.gov>  
4949 Viewridge Avenue  
San Diego, CA 92123  
(858) 467-4201



February 17, 2005

Mr. Vik Bapna, Senior Civil Engineer  
County of Los Angeles Department of Public Works  
Watershed Management Division  
900 South Fremont Avenue, 11<sup>th</sup> Floor  
Alhambra, CA 92803-1331

**Comments on the Notice of Preparation of a Draft Environmental Impact Report for Joint  
Dominguez Gap and DeForest Treatment Wetlands Project, City of Long Beach, Los  
Angeles County (SCH # 2005011101)**

Dear Mr. Bapna:

The Department of Fish and Game (Department) appreciates this opportunity to comment on the above-referenced project, relative to impacts to biological resources. The Department is a Trustee Agency and a Responsible Agency pursuant to the California Environmental Quality Act (CEQA), Sections 15386 and 15381 respectively. As a Trustee Agency, the Department must be consulted by the Lead Agency during the preparation and public review for project-specific CEQA documents. As a Trustee Agency, the Department reviews proposed projects, comments on their impacts, and determines whether the mitigation measures or alternatives proposed are feasible and appropriate. Pursuant to Section 1802 of the Fish and Game Code, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants and habitat necessary for biologically sustainable populations of those species.

The proposed project is located within the City of Long Beach and is comprised of the Dominguez Gap Spreading Grounds and the Market Street Basin alongside the eastern edge of the Los Angeles River between DeForest Park at the north and Interstate 405 at the south. The project would implement a multi-purpose wetland development that would (1) provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation and education, (2) be safe to use, and (3) require minimal maintenance while maintaining the existing flood control capacity.

**Specific Comments**

The Department offers the following preliminary comments specific to the project:

1. The DEIR should provide a discussion of the proposed vector management plan. Please include specifics regarding the use of biological, physical, and chemical controls to avoid and minimize impacts to the restoration of biological resources at this site.

Mr. Bapna  
February 17, 2005  
Page 2

### General Comments

To enable Department staff to adequately review and comment on the proposed project, we recommend the following information be included in the Draft Environmental Impact Report (DEIR), as applicable:

1. A complete assessment of the flora and fauna within and adjacent to the project area, with particular emphasis upon identifying endangered, threatened, and locally unique species and sensitive habitats.
  - a. A thorough assessment of rare plants and rare natural communities, following the Department's May 1984 Guidelines (revised May 2000) for Assessing Impacts to Rare Plants and Rare Natural Communities (Attachment 1).
  - b. A complete assessment of sensitive fish, wildlife, reptile, and amphibian species. Seasonal variations in use of the project area should also be addressed. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, are required. Acceptable species-specific survey procedures should be developed in consultation with the Department and the U.S. Fish and Wildlife Service.
  - c. Rare, threatened, and endangered species to be addressed should include all those which meet the California Environmental Quality Act (CEQA) definition (see CEQA Guidelines, § 15380).
  - d. The Department's California Natural Diversity Data Base in Sacramento should be contacted at (916) 327-5960 to obtain current information on any previously reported sensitive species and habitat, including Significant Natural Areas identified under Division 2, Chapter 12 of the Fish and Game Code.
2. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, should be included.
  - a. CEQA Guidelines, § 15125(c), direct that knowledge of the regional setting is critical to an assessment of environmental impacts and that special emphasis should be placed on resources that are rare or unique to the region.
  - b. Project impacts should be analyzed relative to their effects on off-site habitat. Specifically, this should include nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed Natural Communities Conservation Planning (NCCP) reserve lands. Impacts to and maintenance of wildlife corridor/movement areas, including access to undisturbed habitat in adjacent areas, should be fully evaluated and provided.

Mr. Bapna  
February 17, 2005  
Page 3

- c. A discussion of impacts associated with increased lighting, noise, human activity, changes in drainage patterns, changes in water volume, velocity, and quality, soil erosion, and /or sedimentation in streams and water courses on or near the project site, with mitigation measures proposed to alleviate such impacts should be included.
  - d. The zoning of areas for development projects or other uses that are nearby or adjacent to natural areas may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the environmental document.
  - e. A cumulative effects analysis should be developed as described under CEQA Guidelines, § 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant communities and wildlife habitats.
3. A range of alternatives should be analyzed to ensure that alternatives to the proposed project are fully considered and evaluated. A range of alternatives which avoid or otherwise minimize impacts to sensitive biological resources should be included. Specific alternative locations should also be evaluated in areas with lower resource sensitivity where appropriate.
  - a. The Department considers Rare Natural Communities as threatened habitats having both regional and local significance. Thus, these communities should be fully avoided and otherwise protected from project-related impacts (Attachment 2).
4. Mitigation measures for adverse project-related impacts to sensitive plants, animals, and habitats should be discussed. Mitigation measures should emphasize avoidance and reduction of project impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed.
  - a. The Department generally does not support the use of relocation, salvage, and /or transplantation as mitigation for impacts to rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful.
  - b. Areas reserved as mitigation for project impacts should be protected from future direct and indirect impacts. Potential issues to be considered include limitation of access, conservation easements, monitoring and management programs, control of illegal dumping, water pollution, and fire.

Mr. Bapna  
February 17, 2005  
Page 4

- c. Plans for restoration and revegetation should be prepared by persons with expertise in southern California ecosystems and native plant revegetation techniques. Each plan should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity.
5. A California Endangered Species Act (CESA) Permit must be obtained, if the project has the potential to result in "take" of species of plants or animals listed under CESA, either during construction or over the life of the project. CESA Permits are issued to conserve, protect, enhance, and restore State-listed threatened or endangered species and their habitats. Early consultation is encouraged, as significant modification to a project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that the Department issue a separate CEQA document for the issuance of a 2081 permit unless the project CEQA document addresses all project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a 2081 permit. For these reasons, the following information is requested:
  - a. Biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA Permit.
  - b. A Department-approved Mitigation Agreement and Mitigation Plan are required for plants listed as rare under the Native Plant Protection Act.
6. The Department has responsibility for wetland and riparian habitats. It is the policy of the Department to strongly discourage development in wetlands or conversion of wetlands to uplands. We oppose any development or conversion which would result in a reduction of wetland acreage or wetland habitat values, unless, at a minimum, project mitigation assures there will be "no net loss" of either wetland habitat values or acreage. Development and conversion include but are not limited to conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether intermittent or perennial, should be retained and provided with substantial setbacks which preserve the riparian and aquatic values and maintain their value to on-site and off-site wildlife populations.
  - a. If the site has the potential to support aquatic, riparian, or wetland habitat, a jurisdictional delineation of lakes, streams, and associated riparian habitats should be included in the DEIR, including a delineation of wetlands pursuant to the U.S.

Mr. Bapna  
February 17, 2005  
Page 5

Fish and Wildlife Service wetland definition adopted by the Department<sup>1</sup>. Please note that some wetland and riparian habitats subject to the Department's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers.

- b. The project may require a Lake or Streambed Alteration Agreement, pursuant to Section 1600 *et seq.* of the Fish and Game Code, with the applicant prior to the applicant's commencement of any activity that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank (which may include associated riparian resources) of a river, stream or lake, or use material from a streambed. The Department's issuance of a Lake or Streambed Alteration Agreement for a project that is subject to CEQA will require CEQA compliance actions by the Department as a responsible agency. The Department as a responsible agency under CEQA may consider the local jurisdiction's (lead agency) Negative Declaration or Environmental Impact Report for the project. To minimize additional requirements by the Department pursuant to Section 1600 *et seq.* and/or under CEQA, the document should fully identify the potential impacts to the lake, stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the agreement<sup>2</sup>.

We appreciate the opportunity to comment on the referenced NOP. Questions regarding this letter and further coordination on these issues should be directed to Leslee Newton-Ree at (858) 467-4281.

Sincerely,



Donald R. Chadwick  
Habitat Conservation Supervisor

Attachments

cc: State Clearinghouse

LNR:lnr  
Joint Dominguez Gap and DeForest Treatment Wetlands Project.doc

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<sup>1</sup> Cowardin, Lewis M., et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.

<sup>2</sup> A Streambed Alteration Agreement form may be obtained by writing to: Department of Fish and Game, 4949 Viewridge Avenue, San Diego, CA 92123, by calling (858) 636-3160, or by accessing the Department's web site at [www.dfg.ca.gov/1600](http://www.dfg.ca.gov/1600).

## Guidelines for Assessing the Effects of Proposed Projects on Rare, Threatened, and Endangered Plants and Natural Communities

State of California  
THE RESOURCES AGENCY  
Department of Fish and Game  
December 9, 1983  
Revised May 8, 2000

The following recommendations are intended to help those who prepare and review environmental documents determine **when** a botanical survey is needed, **who** should be considered qualified to conduct such surveys, **how** field surveys should be conducted and **what** information should be contained in the survey report. The Department may recommend that lead agencies not accept the results of surveys that are not conducted according to these guidelines.

1. Botanical surveys are conducted in order to determine the environmental effects of proposed projects on all rare, threatened, and endangered plants and plant communities. Rare, threatened, and endangered plants are not necessarily limited to those species which have been "listed" by state and federal agencies but should include any species that, based on all available data, can be shown to be rare, threatened, and/or endangered under the following definitions:

A species, subspecies, or variety of plant is "endangered" when the prospects of its survival and reproduction are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, over-exploitation, predation, competition, or disease. A plant is "threatened" when it is likely to become endangered in the foreseeable future in the absence of protection measures. A plant is "rare" when, although not presently threatened with extinction, the species, subspecies, or variety is found in such small numbers throughout its range that it may be endangered if its environment worsens.

Rare natural communities are those communities that are of highly limited distribution. These communities may or may not contain rare, threatened, or endangered species. The most current version of the California Natural Diversity Database's List of California Terrestrial Natural Communities may be used as a guide to the name and status of communities.

2. It is appropriate to conduct a botanical field survey to determine if, or to the extent that, rare, threatened, or endangered plants will be affected by a proposed project when:

- a. Natural vegetation occurs on the site, it is unknown if rare, threatened, or endangered plants or habitats occur on the site, and the project has the potential for direct or indirect effects on vegetation; or
- b. Rare plants have historically been identified on the project site, but adequate information for impact assessment is lacking.

3. Botanical consultants should possess the following qualifications:

- a. Experience conducting floristic field surveys;
- b. Knowledge of plant taxonomy and plant community ecology;
- c. Familiarity with the plants of the area, including rare, threatened, and endangered species;
- d. Familiarity with the appropriate state and federal statutes related to plants and plant collecting; and,
- e. Experience with analyzing impacts of development on native plant species and communities.

4. Field surveys should be conducted in a manner that will locate any rare, threatened, or endangered species that may be present. Specifically, rare, threatened, or endangered plant surveys should be:

- a. Conducted in the field at the proper time of year when rare, threatened, or endangered species are both evident and identifiable. Usually, this is when the plants are flowering.

When rare, threatened, or endangered plants are known to occur in the type(s) of habitat present in the project

area, nearby accessible occurrences of the plants (reference sites) should be observed to determine that the species are identifiable at the time of the survey.

b. Floristic in nature. A floristic survey requires that every plant observed be identified to the extent necessary to determine its rarity and listing status. In addition, a sufficient number of visits spaced throughout the growing season are necessary to accurately determine what plants exist on the site. In order to properly characterize the site and document the completeness of the survey, a complete list of plants observed on the site should be included in every botanical survey report.

c. Conducted in a manner that is consistent with conservation ethics. Collections (voucher specimens) of rare, threatened, or endangered species, or suspected rare, threatened, or endangered species should be made only when such actions would not jeopardize the continued existence of the population and in accordance with applicable state and federal permit requirements. A collecting permit from the Habitat Conservation Planning Branch of DFG is required for collection of state-listed plant species. Voucher specimens should be deposited at recognized public herbaria for future reference. Photography should be used to document plant identification and habitat whenever possible, but especially when the population cannot withstand collection of voucher specimens.

d. Conducted using systematic field techniques in all habitats of the site to ensure a thorough coverage of potential impact areas.

e. Well documented. When a rare, threatened, or endangered plant (or rare plant community) is located, a California Native Species (or Community) Field Survey Form or equivalent written form, accompanied by a copy of the appropriate portion of a 7.5 minute topographic map with the occurrence mapped, should be completed and submitted to the Natural Diversity Database. Locations may be best documented using global positioning systems (GPS) and presented in map and digital forms as these tools become more accessible.

5. Reports of botanical field surveys should be included in or with environmental assessments, negative declarations and mitigated negative declarations, Timber Harvesting Plans (THPs), EIR's, and EIS's, and should contain the following information:

- a. Project description including a detailed map of the project location and study area.
- b. A written description of biological setting referencing the community nomenclature used and a vegetation map.
- c. Detailed description of survey methodology.
- d. Dates of field surveys and total person-hours spent on field surveys.
- e. Results of field survey including detailed maps and specific location data for each plant population found. Investigators are encouraged to provide GPS data and maps documenting population boundaries.
- f. An assessment of potential impacts. This should include a map showing the distribution of plants in relation to proposed activities.
- g. Discussion of the significance of rare, threatened, or endangered plant populations in the project area considering nearby populations and total species distribution.
- h. Recommended measures to avoid impacts.
- i. A list of all plants observed on the project area. Plants should be identified to the taxonomic level necessary to determine whether or not they are rare, threatened or endangered.
- j. Description of reference site(s) visited and phenological development of rare, threatened, or endangered plant(s).
- k. Copies of all California Native Species Field Survey Forms or Natural Community Field Survey Forms.
- l. Name of field investigator(s).
- m. References cited, persons contacted, herbaria visited, and the location of voucher specimens.

## ATTACHMENT 2

Sensitivity of Top Priority Rare Natural  
Communities in Southern California

Sensitivity rankings are determined by the Department of Fish and Game, California Natural Diversity Data Base and based on either number of known occurrences (locations) and/or amount of habitat remaining (acreage). The three rankings used for these top priority rare natural communities are as follows:

- S1.# Less than 6 known locations and/or on less than 2,000 acres of habitat remaining.  
S2.# Occurs in 6-20 known locations and/or 2,000-10,000 acres of habitat remaining.  
S3.# Occurs in 21-100 known locations and/or 10,000-50,000 acres of habitat remaining.

The number to the right of the decimal point after the ranking refers to the degree of threat posed to that natural community regardless of the ranking. For example:

- S1.1 = very threatened  
S2.2 = threatened  
S3.3 = no current threats known

## Sensitivity Rankings (February 1992)

<u>Rank</u>	<u>Community Name</u>
S1.1	Mojave Riparian Forest Sonoran Cottonwood Willow Riparian Mesquite Bosque Elephant Tree Woodland Crucifixion Thorn Woodland Allthorn Woodland Arizonan Woodland Southern California Walnut Forest Mainland Cherry Forest Southern Bishop Pine Forest Torrey Pine Forest Desert Mountain White Fir Forest Southern Dune Scrub Southern Coastal Bluff Scrub Maritime Succulent Scrub Riversidean Alluvial Fan Sage Scrub Southern Maritime Chaparral Valley Needlegrass Grassland Great Basin Grassland Mojave Desert Grassland Pebble Plains Southern Sedge Bog Cismontane Alkali Marsh



- S1.2 Southern Foredunes  
Mono Pumice Flat  
Southern Interior Basalt Flow Vernal Pool
- S2.1 Venturan Coastal Sage Scrub  
Diegan Coastal Sage Scrub  
Riversidean Upland Coastal Sage Scrub  
Riversidean Desert Sage Scrub  
Sagebrush Steppe  
Desert Sink Scrub  
Mafic Southern Mixed Chaparral  
San Diego Mesa Hardpan Vernal Pool  
San Diego Mesa Claypan Vernal Pool  
Alkali Meadow  
Southern Coastal Salt Marsh  
Coastal Brackish Marsh  
Transmontane Alkali Marsh  
Coastal and Valley Freshwater Marsh  
Southern Arroyo Willow Riparian Forest  
Southern Willow Scrub  
Modoc-Great Basin Cottonwood Willow Riparian  
Modoc-Great Basin Riparian Scrub  
Mojave Desert Wash Scrub  
Engelmann Oak Woodland  
Open Engelmann Oak Woodland  
Closed Engelmann Oak Woodland  
Island Oak Woodland  
California Walnut Woodland  
Island Ironwood Forest  
Island Cherry Forest  
Southern Interior Cypress Forest  
Bigcone Spruce-Canyon Oak Forest
- S2.2 Active Coastal Dunes  
Active Desert Dunes  
Stabilized and Partially Stabilized Desert Dunes  
Stabilized and Partially Stabilized Desert Sandfield  
Mojave Mixed Steppe  
Transmontane Freshwater Marsh  
Coulter Pine Forest  
Southern California Fellfield  
White Mountains Fellfield
- S2.3 Bristlecone Pine Forest  
Limber Pine Forest

## DEPARTMENT OF TRANSPORTATION

DISTRICT 7

100 MAIN STREET, SUITE 100  
LOS ANGELES, CA 90012-3606  
PHONE (213) 897-0362  
FAX (213) 897-0360  
TTY (213) 897-4937



*Flex your power!  
Be energy efficient!*

February 9, 2005

Mr. Vik Bapna  
County of Los Angeles  
Department of Public Works  
900 South Fremont Avenue, 11<sup>th</sup> Floor  
Alhambra, CA 92803-1331

Re: *Dominguez Gap and Deforest Treatment Wetland Project*  
*Initial Study/NOP of a Draft EIR*  
IGR/CEQA No. 050126/EA  
Vic. LA-710-PM 10.82  
SCH#2005011101

Dear Mr. Bapna:

Thank you for including the California Department of Transportation in the environmental review process for the proposed wetland development project. The proposed project would provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation, and education. The project site is located within the City of Long Beach and is comprised of the Dominguez Gap Spreading Grounds and the Market Street Basin.

We note the southernmost project site borders State right-of-way, therefore, there is the possibility that work may encroach on it. We request that plans be submitted to our Office of Permits for review.

Additionally, we note the passive recreation component of the project would result in an increase in traffic that could result in significant adverse impacts on the surrounding roadway network. We request that the Draft Environmental Impact Report (DEIR) include a traffic impact analysis that evaluates project-related impacts to Del Amo Boulevard/I-710 interchange. Generally, we request the traffic impact analysis include the following information:

1. Traffic volume counts during AM & PM peak-hours.
2. Level of service before and after proposed development.
3. Future conditions that include both project, and project plus cumulative traffic.
4. Discussion of mitigation measures appropriate to alleviate any anticipated traffic impacts, including sharing of mitigation costs.

If you have any questions, please call me at (213) 897 – 3747 and refer to record number 050126/EA.

Sincerely,

A handwritten signature in cursive script that reads "Cheryl J. Powell".

CHERYL J. POWELL  
IGR/CEQA Program Manager  
Caltrans, District 7

cc: Scott Morgan, State Clearinghouse

**APPENDIX B**  
**Construction Emissions Calculations**

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## Construction Emission Calculations

**Table SUM-A**

**Maximum Daily Emissions by Phase (pre-mitigation)**

Phase	CO	ROG	NOx	SOx	Combustion PM10	Fugitive PM10	Total PM10
Clearing and Grubbing	51.03	8.39	93.37	8.18	4.09	186.90	190.99
Excavation and Grading	51.03	8.39	93.37	8.18	4.09	213.30	217.39
Installation	31.88	5.27	52.97	4.07	3.15	130.07	133.22
Landscape and Planting	14.75	4.96	23.80	1.81	1.00	105.14	106.14
Irrigation System	8.50	0.98	4.40	0.04	0.10	90.64	90.74
<b>Maximum Daily Emissions</b>	<b>51.03</b>	<b>8.39</b>	<b>93.37</b>	<b>8.18</b>	<b>4.09</b>	<b>213.30</b>	<b>217.39</b>
SCAQMD Threshold (lb/day)	550	75	100	150	--	--	150
Significant	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>			<b>YES</b>

Emissions assume no phases overlap.

**Table SUM-B**

**Maximum Daily Emissions by Phase (Post-Mitigation)**

Phase	CO	ROG	NOx	SOx	Combustion PM10	Fugitive PM10	Total PM10
Clearing and Grubbing	51.03	8.39	93.37	8.18	4.09	126.29	130.38
Excavation and Grading	51.03	8.39	93.37	8.18	4.09	143.72	147.81
Installation	31.88	5.27	52.97	4.07	3.15	100.64	103.80
Landscape and Planting	14.75	4.96	23.80	1.81	1.00	80.49	81.49
Irrigation System	8.50	0.98	4.40	0.04	0.10	70.92	71.02
<b>Maximum Daily Emissions</b>	<b>51.03</b>	<b>8.39</b>	<b>93.37</b>	<b>8.18</b>	<b>4.09</b>	<b>143.72</b>	<b>147.81</b>
SCAQMD Threshold (lb/day)	550	75	100	150	--	--	150
Significant	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>			<b>NO</b>

PM10 Mitigation assumes a 34% reduction from watering on-site exposed surfaces twice daily

**Table 1-1**  
**Heavy Construction Equipment Exhaust Emission Factors**

Equipment Type	Fuel	Horsepower	Load Factor	CO lb/bhp-hr	VOC lb/bhp-hr	NO <sub>x</sub> lb/bhp-hr	SO <sub>x</sub> lb/bhp-hr	PM <sub>10</sub> lb/bhp-hr	CO lb/hr	VOC lb/hr	NO <sub>x</sub> lb/hr	SO <sub>x</sub> lb/hr	PM <sub>10</sub> lb/hr	Fuel Use gal/bhp-hr	Fuel Use gal/hr
Dozer	Diesel	356	59	0.010	0.002	0.021	0.002	0.001	2.100	0.420	4.411	0.420	0.105	0.050	10.50
Front End Loader	Diesel	147	54	0.011	0.002	0.023	0.002	0.002	0.873	0.159	1.826	0.159	0.119	0.050	3.97
Excavator	Diesel	151.7	58	0.011	0.001	0.024	0.002	0.002	0.968	0.088	2.112	0.176	0.132	0.050	4.40
Crane	Diesel	194	43	0.009	0.003	0.023	0.002	0.002	0.751	0.250	1.919	0.167	0.125	0.050	4.17
Roller	Diesel	99	57.5	0.007	0.002	0.020	0.002	0.001	0.398	0.114	1.139	0.114	0.057	0.050	2.85
Paver	Diesel	91	59	0.007	0.001	0.023	0.002	0.001	0.376	0.054	1.235	0.107	0.054	0.050	2.68

Source: SCAQMD CEQA Air Quality Handbook, November 1993, Tables A9-8-B, A9-8-C, A9-8-D and A9-3-E.

**Table 1-2**  
**On Road Mobile Emission Factors from California ARB EMFAC2002 Scenario Year 2005 (Model Years 1965 to 2005)**

Vehicle Type	CO Emissions Factor lb/mile	VOC Emission Factor lb/mile	NO <sub>x</sub> Emissions lb/mile	SO <sub>x</sub> Emissions lb/mile	PM10 Emissions lb/mile
Construction Workers Commuting	0.015165	0.001626	0.001634	0.00001	0.000079
Light Duty Trucks	0.020984	0.002955	0.028142	0.000246	0.0005
Heavy Diesel Trucks	0.006308	0.001403	0.041541	0.000404	0.000774

**Table 1-3**  
**Fugitive Emission Factors for Construction Activities**

Activity	PM10 Emissions
Storage Pile Filling/Truck Dumping*	0.009075 lbs/ton
Graded Surface*	26.4 lb/acre/day
Storage Piles - Wind Erosion**	42.8 lb/acre/day

\*SCAQMD CEQA Air Quality Handbook, November 1993. Table 9-9

\*\*SCAQMD CEQA Air Quality Handbook, November 1993. Table 9-9-E. G=7.5, H=10, I=100 and J=0.5

**Table 1-4**  
**Fugitive Emission Factors for On-Road Trucks and Employee Vehicles**

Source Type	Emission Factor (lb/vmt)
Passenger Vehicle/On Paved Roadways	0.018
Trucks on Paved Roadways	0.4
Light Duty Trucks on Unpaved Roads*	1.45
Dump Truck and Delivery Vehicles on Unpaved Roads**	2.81

\* Emissions calculated from SCAQMD CEQA Air Quality Handbook, November 1993. Table A9-9-D. G=14, H=15, J=4 tons, I=4 and K=10.

\*\* Emissions calculated from SCAMD CEQA Air Quality Handbook, November 1993. Table A9-9-D, G=14, H=15, J=8.5 tons, I=6, and K=10.

## Heavy Construction Equipment Combustion Calculations by phase

**TABLE 2-1**

### Clearing and Grubbing Phase

Length of Phase 40 working days

Unit	Number	Hour/day Operation	CO	ROG	NOx	SOx	PM-10
Dozer	2	5	21.0	4.2	44.1	4.2	1.1
Front-end Loader	2	8	14.0	2.5	29.2	2.5	1.9
Excavator	1	8	7.7	0.7	16.9	1.4	1.1
<b>Totals</b>			<b>42.7</b>	<b>7.4</b>	<b>90.2</b>	<b>8.1</b>	<b>4.0</b>

**Table 2-2**

### Excavation and Grading

Length of Phase 100 working days

Unit	Number	Hour/day Operation	CO	ROG	NOx	SOx	PM-10
Dozer	2	5	21.0	4.2	44.1	4.2	1.1
Front-end Loader	2	8	14.0	2.5	29.2	2.5	1.9
Excavator	1	8	7.7	0.7	16.9	1.4	1.1
<b>Totals</b>			<b>42.7</b>	<b>7.4</b>	<b>90.2</b>	<b>8.1</b>	<b>4.0</b>

**Table 2-3**

### Installation Phase

Length of Phase 80 working days

Unit	Number	Hour/day Operation	CO	ROG	NOx	SOx	PM-10
Excavator	1	8	7.74	0.70	16.89	1.41	1.06
Front-end Loader	1	8	6.99	1.27	14.61	1.27	0.95
Crane	1	8	6.01	2.00	15.35	1.33	1.00
<b>Totals</b>			<b>20.7</b>	<b>4.0</b>	<b>46.8</b>	<b>4.0</b>	<b>3.0</b>

**Table 2-4**

### Landscape and Planting

Length of Phase 60 working days

Unit	Number	Hour/day Operation	CO	ROG	NOx	SOx	PM-10
Roller	1	8	3.19	0.91	9.11	0.91	0.46
Paver	1	8	3.01	0.43	9.88	0.86	0.43
<b>Totals</b>			<b>6.2</b>	<b>1.3</b>	<b>19.0</b>	<b>1.8</b>	<b>0.9</b>

**Table 2-5**

### Irrigation System

Length of Phase 40 working days

Unit	Number	Hour/day Operation	CO	ROG	NOx	SOx	PM-10
N/A			--	--	--	--	--
<b>Totals</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

N/A = Not Applicable. No heavy construction equipment anticipated for this phase

## Vehicle Emissions

**TABLE 3-1**  
**Clearing and Grubbing Phase**

Length of Phase 40 working days

Source	Parameters			Peak Day Emissions, lbs/day						
	Number of Vehicles	Total Number of Trips	Distance Traveled per Trip	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	Combustion PM10 Emissions	Fugitive PM10 Emissions	Mitigated Fugitive PM10 Emissions
Construction Workers										
Commuting	12	24	20	7.28	0.78	0.78	0.00	0.04	8.64	8.64
Light Duty Trucks On-site	4	4	10	0.84	0.12	1.13	0.01	0.02	58.00	38.28
Daily Delivery Trucks	0	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Trucks on-site	4	4	5	0.13	0.03	0.83	0.01	0.02	56.20	37.09
Water Truck on-site	1	1	10	0.06	0.01	0.42	0.00	0.01	14.50	9.57
<b>Totals</b>				<b>8.31</b>	<b>0.94</b>	<b>3.16</b>	<b>0.03</b>	<b>0.08</b>	<b>137.34</b>	<b>93.58</b>

Mitigated Fugitive Emissions assume a 34% emission reduction from watering on-site roads twice daily.

**Table 3-2**  
**Excavation and Grading**

Length of Phase 100 working days

Source	Parameters			Peak Day Emissions, lbs/day						
	Number of Vehicles	Total Number of Trips	Distance Traveled per Trip	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	Combustion PM10 Emissions	Fugitive PM10 Emissions	Mitigated Fugitive PM10 Emissions
Construction Workers										
Commuting	12	24	20	7.28	0.78	0.78	0.00	0.04	8.64	8.64
Light Duty Trucks On-site	4	4	10	0.84	0.12	1.13	0.01	0.02	58.00	38.28
Daily Delivery Trucks	0	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Dump Trucks on-site	4	4	5	0.13	0.03	0.83	0.01	0.02	56.20	37.09
Water Truck on-site	1	1	10	0.06	0.01	0.42	0.00	0.01	14.50	9.57
<b>Totals</b>				<b>8.31</b>	<b>0.94</b>	<b>3.16</b>	<b>0.03</b>	<b>0.08</b>	<b>137.34</b>	<b>93.58</b>

Mitigated Fugitive Emissions assume a 34% emission reduction from watering on-site roads twice daily.

**Table 3-3**  
**Installation Phase**

Length of Phase 80 working days

Source	Parameters			Peak Day Emissions, lbs/day						
	Number of Vehicles	Total Number of Trips	Distance Traveled per Trip	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	Combustion PM10 Emissions	Fugitive PM10 Emissions	Mitigated Fugitive PM10 Emissions
Construction Workers										
Commuting	16	32	20	9.71	1.04	1.05	0.01	0.05	11.52	11.52
Light Duty Trucks On-site	4	4	10	0.84	0.12	1.13	0.01	0.02	58.00	38.28
Daily Delivery Trucks	1	3	20	0.38	0.08	2.49	0.02	0.05	24.00	24.00
Dump Trucks on-site	1	1	5	0.03	0.01	0.21	0.00	0.00	14.05	9.27
Water Truck on-site	1	1	10	0.06	0.01	0.42	0.00	0.01	14.50	9.57
Concrete Truck	1	1	20	0.13	0.03	0.83	0.01	0.02	8.00	8.00
<b>Totals</b>				<b>11.14</b>	<b>1.29</b>	<b>6.12</b>	<b>0.05</b>	<b>0.14</b>	<b>130.07</b>	<b>100.64</b>

Mitigated Fugitive Emissions assume a 34% emission reduction from watering on-site roads twice daily.



**Table 3-4**  
**Landscape and Planting**

60 working days										
Parameters				Peak Day Emissions, lbs/day						
Source	Number of Vehicles	Total Number of Trips	Distance Traveled per Trip	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	Combustion PM10 Emissions	Fugitive PM10 Emissions	Mitigated Fugitive PM10 Emissions
Construction Workers										
Commuting	12	24	20	7.28	0.78	0.78	0.00	0.04	8.64	8.64
Light Duty Trucks On-site	4	4	10	0.84	0.12	1.13	0.01	0.02	58.00	38.28
Daily Delivery Trucks	1	3	20	0.38	0.08	2.49	0.02	0.05	24.00	24.00
Dump Trucks on-site	0	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Truck on-site	1	1	10	0.06	0.01	0.42	0.00	0.01	14.50	9.57
<b>Totals</b>				<b>8.56</b>	<b>1.00</b>	<b>4.82</b>	<b>0.04</b>	<b>0.11</b>	<b>105.14</b>	<b>80.49</b>

Mitigated Fugitive Emissions assume a 34% emission reduction from watering on-site roads twice daily.

**Table 3-5**  
**Irrigation System**

40 working days										
Parameters				Peak Day Emissions, lbs/day						
Source	Number of Vehicles	Total Number of Trips	Distance Traveled per Trip	CO Emissions	VOC Emissions	NOx Emissions	SOx Emissions	PM10 Emissions	Fugitive PM10 Emissions	Mitigated Fugitive PM10 Emissions
Construction Workers										
Commuting	12	24	20	7.28	0.78	0.78	0.00	0.04	8.64	8.64
Light Duty Trucks On-site	4	4	10	0.84	0.12	1.13	0.01	0.02	58.00	38.28
Daily Delivery Trucks	1	3	20	0.38	0.08	2.49	0.02	0.05	24.00	24.00
Dump Trucks on-site	0	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Water Truck on-site	0	--	--	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Totals</b>				<b>8.50</b>	<b>0.98</b>	<b>4.40</b>	<b>0.04</b>	<b>0.10</b>	<b>90.64</b>	<b>70.92</b>

Mitigated Fugitive Emissions assume a 34% emission reduction from watering on-site roads twice daily.

**Table 4-1****Site Grading PM10 Emissions**

Excavation and Grading Phase

Total Graded Surface Area	20	Acres
Length of Phase	100	days
Maximum acres/day graded	1	acre/day
Emission Rate	26.4	lb PM10/acre/day
<b>Total PM10 Emissions</b>	<b>26.4</b>	<b>lb/day</b>
<b>Mitigated PM10 Emissions</b>	<b>17.4</b>	<b>lb/day</b>

Source: SCAQMD CEQA Air Quality Handbook, November 1993, Table A9-9

Grading is not expected to occur during other phases.

Mitigated PM10 Emissions assume 34% reduction from watering exposed surfaces twice daily

**Table 4-2****Soil Hauling and Pile Filling**

Total Amount of Soil to Move	85,000	Cubic Yards
------------------------------	--------	-------------

**Table 4-3****Soil Movement and Pile Filling by Phase**

Phase	Days	Cubic Yards Moved	Tons Moved	Average Tons Moved Per Day
Clearing and Grubbing	40	24285.7	29796.7	744.9
Excavation and Grading	100	60714.3	74491.8	744.9
<b>Totals</b>	<b>140</b>	<b>85000.0</b>	<b>104288.5</b>	

Calculation assumes a soil density of 1.45 g/cubic cm

**Table 4-4****Soil Hauling and Pile Filling Daily PM-10 Emissions by Phase**

Phase	Emissions (lb/day)	Mitigated Emissions (lb/day)
Clearing and Grubbing	6.8	4.46
Excavation and Grading	6.8	4.46

Mitigation Emissions assume a 34% emission reduction from watering on-site piles twice daily.

**Table 4-5****Wind Erosion Emissions from Storage Piles****Applies to "Clearing and Grubbing" and "Excavation and Grading" phases**

Acres to be covered by storage piles per day	1	acres
Pre-Mitigated PM10 Emissions	42.8	lbs PM10/day
Mitigated PM10 Emissions	28.2	lbs PM10/day

Mitigated Emissions assume 34% emission reduction from watering on-site piles twice daily.

## Emissions from Asphalt Paving

Table 5-1

### Asphalt Off-Gas ROG Emissions

Phase	Landscape and Planting	
Acres Paved	1	acres
Emission Rate	2.62	lb ROG / acre
<b>ROG Emissions</b>	<b>2.62</b>	<b>lb ROG / Day</b>

Emissions assume that all paving occurs during a single day as worst case

Emissions assume that all paving occurs during the Landscape and Planting Phase

Emission rate from URBEMIS2002 v7.5 model defaults



**APPENDIX C**  
**Biological Resources Technical Report**

---



# Joint Dominguez Gap and DeForest Treatment Wetlands Project – Biological Technical Report

PREPARED FOR: Los Angeles County Department of Public Works  
PREPARED BY: CH2M HILL  
COPIES: File  
DATE: April 22, 2005

## Introduction

The Los Angeles County Department of Public Works (DPW) has proposed the Joint Dominguez Gap and DeForest Treatment Wetlands Project (Project). The proposed Project is located within the City of Long Beach and is comprised of the Dominguez Gap Spreading Grounds and the Market Street Basin. The proposed Project would implement a multipurpose wetland development that would (1) provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation, and education, (2) be safe to use, and (3) require minimal maintenance while maintaining the existing flood control capacity.

On March 28 and 29, 2000, CH2M HILL staff conducted an ecological reconnaissance survey of the East and West Basins and adjacent areas at the Dominguez Gap Spreading Grounds. The purpose of the visit was to collect data on existing vegetation and wildlife at the basins and in adjacent areas and to conduct a simplified hydrogeomorphic assessment of the existing value of the site.

This report provides the following: (1) a summary of existing conditions specific to biological resources within the Project area; (2) identification of potential regulatory approvals required by the project relative to regulations to protect biological resources; (3) an analyses of potential impacts to biological resources that may result from the project; and (4) mitigation measures that, when implemented, would mitigate for potential impacts to biological resources.

## Project Location

The proposed Project is located within the City of Long Beach, California and is adjacent to the Los Angeles River (River). Most of the proposed Project site is east of the River and bound by DeForest Park at the north and the Metro Blue Line at the south. The southernmost segment is west of the River and bound by the Metro Blue Line at the north and extends approximately 2,000 feet south towards Interstate 405.

## Project Description

The proposed Project is comprised of the Dominguez Gap Spreading Grounds and the Market Street Basin. The proposed Project would implement a multipurpose wetland development that would provide wildlife habitat, water quality improvement, groundwater

recharge, passive recreation, and education, be safe to use, and require minimal maintenance while maintaining the existing flood control capacity.

The proposed Project elements include the following:

- Landscape and planting of native plant communities
- Construction and operation of an extensive treatment wetland with riparian and wetland habitat in the East Basin
- Construction and operation of riparian habitat along the edges of the West Basin
- Attainment of enhanced groundwater recharge in the West Basin that is equal or greater than the current capacity of the East and West Basins combined
- Construction and operation of wetland and riparian habitat along the northern and southern segments of the Market Street Basin
- Placement of passive recreational features such as trails, bird blinds, shade structures, and interpretive signage at both sites
- Construction and operation of trash removal devices at storm drain outlets to all basins
- Construction and operation of a River water diversion structure to divert water to the Market Street Basin
- Utilization of the existing diversion from the River to East Basin of Dominguez Gap Spreading ground
- Construction and operation of new low flow outlets to River

## Methodology

Information on existing biological resources included a review of existing biological resource databases and relevant literature or environmental reports, field surveys, and habitat evaluations. Databases reviewed included the California Natural Diversity Data Base (CNDDDB) managed by the California Department of Fish and Game (CDFG), the California Wildlife Habitat Relationship (CWHR) System (CDFG), and proposed or final Critical Habitat for species listed as “threatened” or “endangered” designated by the U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (FESA).

Field characterization of the habitat at the Project site was compared to the suitable habitat for each of the sensitive species recorded from the CNDDDB to determine the potential of the Project site to support these species. This analysis is provided in Table 1.

## Existing Conditions

The proposed Project is located within the City of Long Beach and is comprised of the Dominguez Gap Spreading Grounds and the Market Street Basin. The proposed Project is located adjacent to the River and is surrounded on most sides by developed areas, including Interstate 710, single family residential, high-density residential, and public right-of-way. The River in this location is in a concrete-lined channel, with no developed riparian



vegetation. Degraded marsh and fragmented riparian habitat occur on the proposed Project site.

The following subsections describe the biological conditions of the proposed Project site, beginning with a regional overview, the vegetation types and habitat present in the project area, a description of wildlife typical to the area, and a discussion of specific special-status species known to occur in the general region.

## Vegetation and Wildlife Communities

Existing biological resources on the proposed Project site are indicative of man-induced disturbance and irregular hydrology, resulting in a dominance of upland and non-native (exotic) plant species. Habitat types present and immediately adjacent to the site that could be affected by the proposed restoration alternatives include disturbed ruderal habitat; fragmented native riparian woodland, emergent wetland; and developed/ ornamental landscape areas such as roadways, levees, residential areas, or structures. Within the Market Street Basin, an extensive planted woodland is present, dominated by dense, non-native woody tree species, with a few scattered native trees.

### Disturbed/Ruderal Habitat

The proposed Project site consists of manmade retention and spreading grounds basins which are heavily disturbed from past activities. Most of the existing upland vegetation is composed of non-native ruderal species such as giant reed (*Arundo donax*), Brazilian pepper trees (*Schinus terebinthifolius*), telegraph weed (*Heterotheca* spp.), castor bean (*Ricinus communis*), eucalyptus (*Eucalyptus* sp.), Chinese elm (*Ulmus parvifolia*), Russian thistle (*Salsola tragus*), mustard (*Brassica campestris*), wild radish (*Raphanus sativa*), and non-native grasses including soft chess (*Bromis mollis*), red brome (*B. rigidus*), wild oat (*Avena* sp.), and hordeum (*Hordeum vulgare*).

The upland areas of the West Basin are vegetated primarily with upland invasive plants such as cocklebur (*Xanthium strumarium*), castor bean, nightshade (*Solanum* spp.), white sweetclover (*Melilotus alba*), and horseweed (*Conyza canadensis*). The vegetation in this area is visibly zoned as a result of frequent changes in water surface elevation. Upland vegetation in the East Basin is also dominated by upland exotic species including castor bean, acacia trees (*Acacia greggii*), and eucalyptus. Similarly, in the Market Street Basin non-native upland vegetation is dominated by castor bean, mustard, wild radish, and non-native grasses.

The open ruderal areas within the proposed Project site provide marginal habitat for small mammals and foraging areas for raptors. Ground squirrels (*Spermophilus beecheyi*), and other small mammals are present and construct underground burrows in the friable soils of berms. These burrows can subsequently provide shelter habitat for other wildlife, including lizards, snakes, or amphibians.

### Upland - Landscaped

Small portions of the east bank of the West Basin and the west bank of the East Basin (areas along the Los Angeles River Levee) contain recently installed native irrigated landscape, including upland shrub and herbaceous species. This vegetation community supports a

mixture of sclerophyllous low chaparral shrubs and drought-deciduous sage scrub species. Characteristic species in this habitat include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), California encelia (*Encelia californica*), and several species of sage (e.g., *Salvia mellifera*, *S. apiana*). Common upland wildlife species include western fence lizard (*Sceloporus occidentalis*), California ground squirrel (*Spermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), gray fox (*Urocyon cinereoargenteus*), and various songbirds. Feral cats (*Felis catus*) and domestic dogs (*Canis familiaris*) are also present in the West Basin.

### Non-Native Woodland

Within the northern segment of the Market Street Basin, an extensive non-native woodland is present, consisting of ornamental landscape trees planted by volunteers during the 1970's. Trees are present in high density within some areas. A variety of species and cultivars are present, although most were not identified to species during field surveys. Some native trees are scattered throughout the canopy, including California sycamore (*Platanus racemosa*), Fremont cottonwood (*Populus fremontii*), and coast live oak (*Quercus agrifolia*). Native willows are present in the wetter areas where low flow discharges are present from the storm drains providing a perennial source of water (see below). The non-native woodland extends about two-thirds of the way south along the northern segment of the Market Street Basin, where it opens into ruderal habitat just north of the Long Beach Boulevard crossing.

### Riparian Forest and Scrub

Fragmented riparian habitat occurs along the banks of the East Basin, consisting of scattered riparian trees including black willow (*Salix gooddingii*) and sandbar willow (*Salix hindsiana*). This area is interspersed with nonnative trees including eucalyptus, and elm. The woodland reaches 60 feet in height in some locations. This tree layer provides cover for wildlife and shading of the ponded areas of the East Basin. Many species of songbirds use the limited riparian habitat and exotic trees and shrubs. The proximity of extensive landscaped areas on nearby properties influences use by birds and other wildlife, providing nest and roost sites and a habitat buffer to riparian areas in the basin.

Within the northern segment of the Market Street Basin, a linear riparian corridor is present along the open water channel associated with the storm drain low flow discharge. This discharge supports about 4 acres of seasonal wetland and riparian woodland. Dominant woodland species include black willow and sandbar willow. Fremont cottonwood is present in some limited locations, including some large individuals at the north end of the basin.

### Emergent Wetland

Freshwater emergent wetlands occur within the proposed Project area in areas of shallow, permanent or semi permanent inundation. The East Basin has more existing marsh and riparian habitat than the West Basin and contains greater vertical structure, primarily on the east bank. Native species within the marsh include willow, cattail (*Typha* sp.), duckweed (*Lemna* sp.), and bulrush (*Scirpus* spp.). Generally the wetland is limited in development, and degraded from low water quality and excessive debris and trash.

Within the northern segment of the Market Street Basin, a small seasonal/emergent wetland is present, supported by low flow discharge from the storm drain at the north end of the site, which provides a perennial water source. Dense emergent vegetation is present which is dominated by California bulrush (*Scirpus californicus*) and other species of bulrush. The wetland is surrounded by willow riparian habitat, and seasonal wetland plants are present around the perimeter which include curly dock (*Rumex crispus*) and other hydrophytic (water-loving) vegetation.

A large number and variety of shorebirds and waterfowl use the River and are known to also use the open water of the East and West Basins for foraging and/or breeding. Breeding mallards (*Anas platyrhynchos*) and other waterfowl occur in both the northern and southern portions of the East Basin. The aquatic habitat does not support southwestern pond turtle (*Clemmys marmorata pallida*), but the non-native red-eared slider is reported in abundance.

### Los Angeles River Habitat

The concrete-lined channel of the River lies immediately adjacent to the proposed Project, and is the location for the proposed water diversion to the Market Street Basin. The River channel in this location consists of a wide, trapezoidal channel, with a flat bottom and sloping sides, and a small rectangular low-flow channel in the center of the main channel. Within the concrete channel, no permanent vegetation is present. However, during the low flow season, a thin sheet of water flows over this area, supporting a substantial algae mat. This mat supports invertebrates, which in turn support foraging by a variety of shorebirds. Several species of shorebird are present year-round; however, peak abundance and diversity occur during fall migration in August and early September, coincident with low water flow in the River and high algae growth (Garrett, 1993).

### Developed and Ornamental Landscape Areas

Man-made structures within the proposed Project impact area and adjacent communities include roadways, levees, residential areas, and various infrastructure support features. Compared to vegetated habitats, these developed areas support a low diversity of wildlife. Non-native ornamental landscaping including rose (*Rosa sp.*), olive (*Olea europea*), eucalyptus, pepper tree (*Schinus sp.*), and palm (*Washingtonia sp.*) are typical in these areas. The availability of water, shady cover, and insects make the yards and landscaping around urban areas attractive to certain adaptable species, many of which are non-native. American crows (*Corvus brachyrhynchos*), Brewer's blackbirds (*Euphagus cyanocephalus*), mourning dove (*Zenaida macroura*), Northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), and house sparrows (*Passer domesticus*) are common in these areas.

### Clean Water Act and Fish and Game Code

Section 401 of the Clean Water Act (CWA) gives the State Water Resources Control Board (SWRCB) jurisdiction for regulating discharges of fill and dredged material to waters of the U.S., including wetlands, through the Water Quality Certification Program. The Water Quality Certification Program is administered by the applicable Regional Water Quality Control Board (RWQCB). For the proposed Project, the Los Angeles RWQCB (Region 4) is the administering authority.

Section 404 of the CWA gives the U.S. Army Corps of Engineers (USACE) jurisdiction for regulating discharges of fill and dredged material to waters of the U.S., including wetlands, through the 404 Permit Process.

Section 1600 of the California Fish and Game Code gives the California Department of Fish and Game (CDFG) jurisdiction for regulating activities occurring within the bed and bank of a river, stream, or lake, through the Lake or Streambed Alteration Agreement approval process.

### **Jurisdictional Waters of the United States Including Wetlands**

No jurisdictional wetlands or waters of the U.S. are present on the East, West, and Market Street Basins. Degraded marsh and riparian areas occur on site; however, the East, West, and Market Street Basins are owned and operated by DPW and were constructed for stormwater detention and infiltration for flood management and groundwater recharge. Therefore the East, West, and Market Street Basins are not jurisdictional under Section 404 and 401 of the Clean Water Act (CWA).

Improvements to the proposed Project include the addition of a diversion structure to bring flow from the River to the Market Street Basin to provide a supplemental source of water for the proposed wetlands. The structure would consist of a rectangular concrete box buried underneath the bed of the River, adjacent to the low flow channel. The River is considered a jurisdictional water of the U.S., therefore, the proposed Project would require a Section 404 Permit from the USACE and a Section 401 Water Quality Certification from the RWQCB, under the CWA.

### **Stream Bed and Bank Under Section 1600 Jurisdiction**

The East, West, and Market Street Basins are owned and operated by DPW and were constructed for stormwater detention and infiltration for flood management and groundwater recharge. Therefore the East, West, and Market Street Basins are not CDFG jurisdictional under Section 1600 of the California Fish and Game Code.

Improvements to the proposed Project include the addition of a diversion structure to bring flow from the River to the Market Street Basin to provide a supplemental source of water for the proposed wetlands. The structure would consist of a rectangular concrete box buried underneath the bed of the River, adjacent to the low flow channel. Alterations to the bed and bank of the River would require a Streambed Alteration Agreement from CDFG under Section 1600 of the California Fish and Game Code.

## **Threatened and Endangered Species**

### **Special Status Species**

Special-status species include those:

- 1) Listed or proposed for listing by state or federal agencies as rare, threatened, or endangered;
- 2) Federal Species of Concern or state Species of Special Concern;

- 3) Species listed by the California Native Plant Society (CNPS) with a designation of Category 2 (indicating species that are rare or endangered in California but more common elsewhere) or 1B (indicating species that are rare or endangered in California and elsewhere); or
- 4) Species identified by biologists with regional knowledge as being of conservation concern or local interest.

Wildlife and habitat surveys conducted at East, West, and Market Street Basins in support of the Dominguez Gap Wetland Recreation Study (CH2M HILL, 2001) and the DeForest Park Wetland Feasibility Study (CH2M HILL, 2002) indicate that the degraded habitats would not support special-status species except for occasional foraging or other transient uses. A number of special-status species either historically occurred in the area or may still be present in the general vicinity of the lower Los Angeles Basin. A comprehensive list of special-status species with the potential to occur in the regional vicinity of the lower Los Angeles River is presented in Table 3-5. Species were included if they had historically or recently been recorded in the regional vicinity (from California Natural Diversity Database [CNDDB] records or other sources; queried April, 2005). These species are associated with natural habitats that were once prevalent in the area but have since been lost to extensive urban development. Habitat modification, weed control, and irrigation practices have forced many of these species into remnant pockets of marginal habitat.

The list includes species listed as threatened or endangered that have special requirements under the Federal Endangered Species Act (FESA) and California Endangered Species Acts (CESA) and other non-listed special-status species that could become listed in the future. Table 3-5 includes the habitat types that could support these species as well as the potential for occurrence in the proposed Project area.

Species with suitable habitat that may be seasonally present in the area or required further analysis to determine presence are discussed in the following section.

### Special-Status Plants

A total of seven special-status plant species have been recorded in the regional vicinity which have the potential to occur in or near the proposed Project site. This includes Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), south coast saltscale (*Atriplex pacifica*), Parish's brittlescale (*Atriplex parishii*), salt marsh bird's beak (*Cordylanthus maritimus* ssp. *maritimus*), southern tarplant (*Hemizonia parryi* ssp. *australis*), Coulter's goldfield (*Lasthenia glabrata* ssp. *coulteri*), coast woolly-heads (*Nemacaulis denudata* var. *denudata*), Brand's phacelia (*Phacelia stellaris*), and salt spring checkerbloom (*Sidalcea neomexicana*).

These species are associated with natural habitats that were once prevalent in the area but have since been lost to extensive urban development. Habitat modification, weed control, and irrigation practices have forced these species into remnant pockets of marginal habitat. Recent records indicate no observations of special-status plant species in the proposed Project work areas. The absence of historical records may be due to the lack of previous surveys performed in the area. However, the proposed Project site is extensively developed and lacks suitable habitat for any of the listed sensitive plant species.

Because of the degraded conditions, rare plants are not anticipated; however, focused botanical surveys have not been conducted. Project-specific field surveys should be conducted during the appropriate blooming periods for the special-status plants to determine if they occur in the proposed Project impact areas and to further characterize the potential of available habitat in the vicinity. Potential habitat may be found along the ruderal margins of the basins, roads, and levees where moist sandy soils may persist.

### Special Status Animals

A number of special-status fish and wildlife species have the potential to occur in or near the proposed Project site. This includes: birds, Cooper's hawk (*Accipiter cooperi*), Sharp-shinned hawk (*Accipiter striatus*), Burrowing Owl (*Athene cunicularia*) the least Bell's vireo (*Vireo bellii pusilus*), southwestern willow flycatcher (*Empidonax traillii extimus*), peregrine falcon (*Falco peregrinus anatum*), and burrowing owl (*Athene cunicularia*); amphibians and reptiles, California red-legged frog (*Rana aurora draytonii*), San Diego horned lizard (*Phrynosoma coronatum blainvilliei*), southwestern pond turtle, and two-striped garter snake (*Thamnophis hammondi*); mammals, Pacific pocket mouse (*Perognathus longimembris pacificus*); fish, arroyo chub (*Gila orcutti*), and Santa Ana sucker (*Catpstomus santaanae*).

Of these species, most are presumed to be extirpated from the vicinity of the proposed project site. The San Diego horned lizard was not observed but may occur on site. Peregrine falcons are resident nesters in the port environment in Long Beach and may occasionally forage in wetland environments along the Los Angeles River. No native fish are anticipated in the project area.

The potential for occurrence of state or federally listed species in the restored habitat in the proposed Project site is briefly reviewed here.

### Birds

**Least Bell's vireo** is listed as federally endangered. It breeds exclusively in dense riparian areas, and is associated with willow, cottonwood, or mulefat. There is currently a lack of intact riparian habitat which would support this species on the proposed Project site.

**Southwestern willow flycatcher** is a California and federally endangered species. This species is generally restricted to riparian woodlands along streams and rivers with dense stands of willows, cottonwoods or smaller spring fed or boggy areas with willows or alders (*Alnus* spp.). The riparian habitat on the proposed Project site is generally too fragmented and limited in extent to support this species, and it would not be anticipated to occur.

**The Western Burrowing owl** is a California and federal species of concern. It forages in agricultural fields and other open areas and nests in underground burrows. Although intensive development makes the habitat marginally suitable for nesting, burrowing owls may find nesting opportunities along the berms and levees. Burrowing owls or burrows were not observed in the field surveys of the site, but they may use degraded urban environments in open grasslands or fields. Although no active nest sites appeared in the CNDDDB records and no owl sign was observed during reconnaissance-level surveys of the proposed Project area, additional nesting-season surveys should be conducted in potentially suitable areas.

### Amphibians and Reptiles

*California red-legged frog* is federally threatened. It inhabits quiet pools in streams, marshes, and ponds, and can be found in riparian uplands when not in breeding watercourses. It is out-competed and preyed upon by bullfrogs and would not be expected to occur in the proposed Project site because of the large population of bullfrogs on the lower Los Angeles River. It is generally considered extirpated from the lower River.

*Southwestern pond turtle* is a California species of concern and the only native freshwater turtle in the Pacific Coast states. Highly aquatic and associated with riparian habitat including streams, rivers, sloughs, ponds, and artificial water bodies. Southwestern pond turtles are not known to occur within the proposed Project site. Previous surveys for this species have occurred in the Dominguez Gap basins; during surveys, red-eared sliders were identified in abundance, but no southwestern pond turtles were detected. The non-native slider generally out competes pond turtles, and the pond turtle is unlikely to occur in the Project site.

### Fish Species

*Santa Ana sucker* is endemic to the Los Angeles Basin coastal streams; it is federally threatened. The lack of natural watercourses limits the occurrence of this species near the proposed Project site, and it would not be expected to colonize in Dominguez Gap.

*Arroyo chub* occurs in natural or naturalized water courses in parts of the Los Angeles River system. It requires cool, flowing water and gravel or sandy substrates to breed. It has not been recorded in the developed lower portion of the River, and would not be expected to occur in the proposed Project site.

TABLE 1  
Special-Status Species Historically or Recently Recorded in the Regional Vicinity of the Lower Los Angeles River\*

Species	Status	Habitat Requirements	Recent Occurrence Records	Potential Occurrence on Project Site*
<b>Birds:</b>				
Cooper's hawk <i>Accipiter cooperi</i>	CSC	Found primarily in dense stands of live oak, riparian deciduous, or other forest habitats; areas near water used most frequently. Hunts in broken woodland and habitat edges; catches prey in the air, on the ground, and in vegetation.	---	●
Sharp-shinned hawk <i>Accipiter striatus</i>	CSC	Prefers, but not restricted to, riparian habitats. North-facing slopes, with plucking perches are critical requirements. Often forages in openings at edges of woodlands, hedgerows, brushy pastures, and shorelines, especially where migrating birds are found. Uses dense stands in close proximity to open areas.	---	○
Burrowing Owl <i>Athene cunicularia</i>	SC/CSC	Frequents open grasslands and shrublands with perches and burrows. Nests in old ground squirrel burrows or other small mammal burrows, as well as pipes, culverts, and other artificial structures. It would be constrained from occurring in the vicinity of the proposed project by human activity and ongoing disturbance.	CNDDB records indicate a detection occurring for the weapons bunker area at the Seal Beach Naval Weapons Station in 1983.	○
Yellow warbler <i>Dendroica petechia brewsteri</i>	CSC	Breeds in riparian woodlands. Usually found in riparian deciduous habitats in summer: cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland. In migration, found in a variety of sparse to dense woodland and forest habitats.	---	●
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i>	FE/SE	Typically breeds in dense willow and other riparian thickets. Migrant individuals may occupy restored habitats while passing to and from breeding grounds. This species generally requires more extensive riparian habitat than would be afforded at the DeForest or Sixth Street sites.	---	○
Peregrine Falcon <i>Falco peregrinus anatum</i>	SE	This species forages for birds including waterfowl and shorebirds, typically in coastal areas or other wetlands with large concentrations of prey. It nests on natural cliff faces or artificial structures, including bridges and large buildings. This species may occasionally forage along the Los Angeles River.	Several pairs currently breed in the Long Beach Harbor area downstream from the Project site	●



**TABLE 1**  
Special-Status Species Historically or Recently Recorded in the Regional Vicinity of the Lower Los Angeles River\*

Species	Status	Habitat Requirements	Recent Occurrence Records	Potential Occurrence on Project Site*
Loggerhead shrike <i>Lanius ludovicianus</i>	SC/CSC	Frequents open habitats with sparse shrubs and trees, other suitable perches, bare ground, and low or sparse herbaceous cover. Searches for prey from a perch at least 0.6 meter (2 feet) aboveground. This species could potentially occupy restored riparian or open habitats at the DeForest and Sixth Street sites.	---	●
Least Bell's Vireo <i>Vireo bellii pusillus</i>	FE/SE	Found exclusively in dense willow, cottonwood, and mulefat riparian areas along water or dry parts of ephemeral streams. Migrant individuals may occupy restored habitats while passing to and from breeding grounds. This species generally requires more extensive riparian habitat than would be afforded at the DeForest or Sixth Street sites.	---	○
<b>Amphibians and Reptiles:</b>				
Southwestern Pond Turtle <i>Clemmys marmorata pallida</i>	SC/CSC	This species breeds and forages in perennial watercourses with ample pool habitats, and basking sites. It generally prefers watercourses with pools two or more feet deep.	Not recently recorded on the lower Los Angeles River; may be limited by preponderance of exotics including red-eared sliders. Focused surveys at Dominguez Gap for this species were negative.	○
San Diego Horned Lizard <i>Phrynosoma coronatum blainvillei</i>	SC/CSC	This species occupies coastal sage scrub and chaparral and other open habitats, including sandy washes. It prefers areas with friable, rocky, or shallow sandy soils. It would not be likely to colonize the area given the lack of nearby intact habitat.	Detections have been documented on CNDDB records in Long Beach for City Park, junction of 4 <sup>th</sup> and Daisy Streets, 68 <sup>th</sup> Street, Hartwell Park, along Sang Gabriel River near 7 <sup>th</sup> Street in 1986. One detection has been recorded at the junction of Rosecrans Ave and Southern Pacific Railroad in the City of Compton and on Seal Beach in 1986.	●

TABLE 1  
Special-Status Species Historically or Recently Recorded in the Regional Vicinity of the Lower Los Angeles River\*

Species	Status	Habitat Requirements	Recent Occurrence Records	Potential Occurrence on Project Site*
California Red-Legged Frog <i>Rana aurora draytonii</i>	FT/CSC	Highly aquatic. Prefers shorelines with extensive vegetation. Inhabits quiet pools of streams, marshes, and sometimes ponds. It may range in uplands, or aestivate in dense vegetation, leaf litter, or burrows when not in breeding watercourses. It has been extirpated from the lower Los Angeles River watershed and would not be expected to recolonize with the large population of bullfrogs in the area.	---	○
Two-Striped Garter Snake <i>Thamnophis hammondi</i>	SC/CSC	Highly aquatic species, found in or near permanent and ephemeral fresh water, often in streams with rocky beds and riparian vegetation. It is sensitive to the presence of bullfrog. There is limited potential for recolonization by this species.	---	●
<b>Mammals:</b>				
Pacific Pocketmouse <i>Perognathus longimembris pacificus</i>	FE/CSC	This species seems to prefer fine alluvial sands near the ocean, but its habitat is not well known. The presence of feral cats would likely preclude the colonization by this species on the project site.	Historical CNDDB records have been documented for the Wilmington area of Los Angeles in 1865. Generally considered extirpated from regional vicinity. Not likely to occur.	○
<b>Fish:</b>				
Santa Ana Sucker <i>Catostomus santaanae</i>	FPT/CSC FS:Sensitive	This species is endemic to the Los Angeles Basin coastal streams. It is a habitat generalist, but prefers sand, cobble, or boulder bottoms, and cool, clear water with ample algae growth.	Nearest known records in the Tujunga Wash upstream in the watershed. The existing aquatic habitat at the DeForest and Sixth Street sites would not support this species.	○
Arroyo Chub <i>Gila orcutti</i>	CSC FS:Sensitive	This species occurs in permanent watercourses, especially in slow-moving streams with mud and sand bottoms; it feeds heavily on invertebrates associated with dense, aquatic vegetation.	Not considered extant on the lower Los Angeles River, but recently documented by CH2M HILL and others in Sepulveda Basin. The preponderance of exotic species and lack of flowing stream habitat indicate the species is not likely to occur on the project site.	○

TABLE 1  
Special-Status Species Historically or Recently Recorded in the Regional Vicinity of the Lower Los Angeles River\*

Species	Status	Habitat Requirements	Recent Occurrence Records	Potential Occurrence on Project Site*
<b>Insects:</b>				
Monarch Butterfly <i>Danaus plexippus</i>		Requires roosts that are located in wind-protected tree groves (eucalyptus, monterey pine, cypress), with nectar and water sources nearby.	CNDDDB records indicate that this species was detected at Heartwell Park in Long Beach in 1997 and 1989. Detections were also recorded at El Dorado Nature Center in Long Beach in 1990, 1991, 1995, and 1997. Additional detections have been documented at Gum Grove Park in Seal Beach in 1990, 1991, 1992, 1993, 1995, and 1997.	●
<b>Plants:</b>				
Davidson's Saltscale <i>Atriplex serenana</i> var. <i>davidsonii</i>	CNPS:1B	This species can be found in coastal scrub and coastal bluff scrub habitats with an alkali soil component.	According to incomplete CNDDDB records, this species was detected in the City of San Pedro at UTM: N3733474 E381422.	●
South Coast Saltscale <i>Atriplex pacifica</i>	SC/CNPS:1B	Occurs on playas, coastal scrub and coastal bluff scrub habitats with alkali soils.	According to incomplete CNDDDB records, this species was detected in the City of San Pedro at Universal Transverse Mercator (UTM) coordinates: N3733474 E381422.	●
Parish's Britttlescale <i>Atriplex parishii</i>	SC CNPS:1B	This species occurs in alkali meadows, vernal pools, and chenopod scrub. This plant is generally considered extirpated in this general region.	---	○
Southern Tarplant <i>Hemizonia parryi</i> ssp. <i>australis</i>	SC CNPS:1B	This species occurs in marshes and swamp margin, valley and foothill grasslands, and vernal pools in Southern California. It seems to prefer disturbed sites near the coast, sometimes in alkali soil with salt grass.	According to CNDDDB records the southern tarplant was detected at the Harbor Lake Regional Park marsh in 1991, near Long Beach State University in 1973, west of the junction of Loynes Drive and Studebaker Avenue in 1997, north of Gum Grove Park in Seal Beach in 1996, and at Bixby Ranch oil field property in Los Alamitos in 1997.	●

**TABLE 1**  
Special-Status Species Historically or Recently Recorded in the Regional Vicinity of the Lower Los Angeles River\*

Species	Status	Habitat Requirements	Recent Occurrence Records	Potential Occurrence on Project Site*
Coulter's Goldfield <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	SC/CNPS:1B	This species occurs on coastal salt marshes, playas, valley and foothill grassland and vernal pools.	CNDDDB records indicate the most recent record occurring in 1949 at the Anaheim Bay Marsh in Seal Beach.	○
Brand's Phacelia <i>Phacelia stellaris</i>	CNPS:1B	This species can be found in Southern California in open areas with coastal scrub and coastal dune habitats. This plant is generally considered extirpated in this general region.	According to incomplete CNDDDB records, Brand's phacelia was detected in the City of Downey at UTM: N3756128 E395113.	○
Salt Spring Checkerbloom <i>Sidalcea neomexicana</i>	CNPS:2	This species occurs on alkali playas, brackish marshes, chaparral, coastal scrub, lower montane coniferous forest, and mojavean desert scrub habitats.	CNDDDB records have documented occurrences near the northwest intersection of Bryant Avenue and Hansen Road in 1936.	●

**Key:**

Federal Listing

(FE) Federally Endangered  
(FT) Federally Threatened  
(FPE) Proposed Endangered  
(FPT) Proposed Threatened  
(SC) Species of Concern  
(FS) Forest Service

State Listing

(C) Candidate  
(SE) State Endangered  
(ST) State Threatened Concern  
(SR) State Rare  
(CSC) DFG Species of Special Concern

- Extant in regional vicinity with potential to occur on the project site
- Extant in isolated occurrences or scattered distribution in regional vicinity with limited potential to occur on the project site
- Extirpated in regional vicinity with low or no likelihood to occur on the project site

\* Regional Vicinity is loosely defined as the lower Los Angeles Basin; generally consisting of the coastal plain and coastal areas from Palos Verdes Peninsula to western Orange County, north to Glendale Narrows or the lower foothills surrounding the basin.

## Regulatory Requirements

The following subsections describe the primary laws, ordinances, and regulations that apply to potential impacts on biological resources in the project area and list the agencies responsible for enforcing the regulations. Table 2 further describes the applicability of these laws to the proposed project.

### Federal

#### Federal Endangered Species Act (FESA, 16 USC 153 et seq.)

Applicants for projects that could result in adverse impacts on any federally listed species are required to consult with and mitigate potential impacts in consultation with the U.S. Fish and Wildlife Service (USFWS). Adverse impacts are defined as “take,” which is prohibited except through authorization of a Section 7 or Section 10 consultation and Incidental Take Authorization. “Take” under federal definition includes “such act as may include significant habitat modification or degradation” (50 CFR §17.3). Species that are candidates for listing are not protected by the Federal Endangered Species Act (FESA); however, USFWS advises that a candidate species (as well as species of concern) could be elevated to listed status at any time, and therefore, applicants should regard these species with special consideration.

#### Migratory Bird Treaty Act (16 USC 703 to 711)

Migratory Bird Treaty Act (16 USC 703 to 711) protects all migratory birds, including nests and eggs.

### State

#### California Endangered Species Act (Fish and Game Code Section 2050 et seq.).

Species listed under this act cannot be “taken” or harmed, except under specific permit. At present, “take” means to do or attempt to do the following: hunt, pursue, catch, capture, or kill.

#### Fish and Game Code Section 3511

Describes bird species, primarily raptors, that are “fully protected.” Fully protected birds may not be taken or possessed, except under specific permit requirements.

#### Fish and Game Code Section 3503

States that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

#### Fish and Game Code Section 3503.5

Protects all birds of prey and their eggs and nests.

#### Fish and Game Code Section 3513

Makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.

**Fish and Game Code Sections 4700, 5050, and 5515**

Lists mammal, amphibian, and reptile species that are fully protected in California.

**Fish and Game Code Sections 1900 et seq.,**

The Native Plant Protection Act lists threatened, endangered, and rare plants listed by the state.

**Title 14, California Code of Regulations, Sections 670.2 and 670.5**

Lists animals designated as threatened or endangered in California. California species of special concern (CSC) is a category conferred by the California Department of Fish and Game (CDFG) on those species that are indicators of regional habitat changes or are considered potential future protected species. CSCs do not have any special legal status, but are intended by CDFG for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

**California Fish and Game Code (Sections 1601 through 1607)**

Prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG. The limit of CDFG jurisdiction is subject to the judgment of the department, up to the 100-year flood level. This applies to any channel modifications that would be required to meet drainage, transportation, or flood control objectives of the project.

**California Environmental Quality Act (CEQA) (Public Resources Code Section 15380)**

Defines “rare” in a broader sense than the definitions of threatened, endangered, or species of special concern. Under this definition, CDFG can request additional consideration of species not otherwise protected. CEQA requires that the effects of a project on environmental resources be analyzed and assessed using criteria determined by the lead agency.

TABLE 2  
Laws, Ordinances, Regulations, and Standards (LORS) Applicable to the Proposed Project.

LORS	Purpose	Regulating Agency	Permit or Approval	Applicability (Section Explaining Conformance)
<b>Federal</b>				
Endangered Species Act of 1973 and implementing regulations, Title 16 United States Code (USC) §1531 et seq. (16 USC 1531 et seq.), Title 50 Code of Federal Regulations (CFR) §17.1 et seq. (50 CFR 17.1 et seq.)	Designates and protects federally threatened and endangered plants and animals and their critical habitat.	USFWS	Issues, Biological Opinion, or Authorization with Conditions after review of project impacts	Applicant has sited facility to avoid habitat for endangered species. Critical habitat has not been designated in the project area. Potential habitat for special-status species does not exist on the project site. Implementation of protection measures will reduce impacts to less than significant.
Section 404 of Clean Water Act of 1977	Requires permit to fill jurisdictional wetlands.	USACE	Section 404 Permit	Applicant will obtain 404 Certification, if required, for the installation of the diversion structure within the River.
Section 401 of Clean Water Act of 1977	Requires the Applicant to conduct water quality impact analysis for the project when using 404 permits and for discharges to waterways.	RWQCB	Water Quality Certification	Applicant will obtain 401 Certification, if required, for the installation of the diversion structure within the River.
Migratory Bird Treaty Act 16 USC §§703-711	Prohibits the non-permitted take of migratory birds.	USFWS and CDFG	CEC Conditions	Applicant will avoid take of migratory birds by implementing migratory bird protection measures.
<b>State</b>				
California Endangered Species Act of 1984, Fish and Game Code, §2050 through §2098	Protects California's endangered and threatened species.	CDFG	Comments as cooperating agency on Section 7 or Issues 2081 incidental take permit for state-listed species.	No state-listed species are expected to be "taken" as a result of the project.
Title 14, California Code of Regulations (CCR) §§670.2 and 670.5	Lists plants and animals of California declared to be threatened or endangered.	CDFG	N/A	N/A

**TABLE 2**  
Laws, Ordinances, Regulations, and Standards (LORS) Applicable to the Proposed Project.

<b>LORS</b>	<b>Purpose</b>	<b>Regulating Agency</b>	<b>Permit or Approval</b>	<b>Applicability (Section Explaining Conformance)</b>
Fish and Game Code Fully Protected Species §3511: Fully Protected birds §4700: Fully Protected mammals §5050: Fully Protected reptiles and amphibians §5515: Fully Protected fishes	Prohibits the taking of listed plants and animals that are Fully Protected in California.	CDFG	N/A	Applicant will avoid take of state-listed plants and wildlife species (Subsections 8.2.4.2 and 8.2.5)
Fish and Game Code §1930, Significant Natural Areas (SNA)	Designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitats. Listed in the CNDDB.	CDFG		There are no SNAs in the project area.
Fish and Game Code §1580, Designated Ecological Reserves	The CDFG commission designates land and water areas as significant wildlife habitats to be preserved in natural condition for the general public to observe and study.	CDFG		There are no DERs in the project area.
Fish and Game Code §1600, Streambed Alteration Agreement (SAA)	Reviews projects for impacts to waterways, including impacts to vegetation and wildlife from sediment, diversions, and other disturbances.	CDFG	Issues conditions of the SAA that reduces and minimizes effects on vegetation and wildlife downstream of construction areas.	Applicant will apply for a SAA, if required by CDFG, for the installation of the diversion structure within the River.
Native Plant Protection Act of 1977, Fish and Game Code, §1900 et seq.	Designates state rare and endangered plants and provides specific protection measures for identified populations.	CDFG	Reviews mitigation options if there will be significant project effects on threatened or endangered plant species	There are no rare or endangered plants on the project site.



TABLE 2

Laws, Ordinances, Regulations, and Standards (LORS) Applicable to the Proposed Project.

<b>LORS</b>	<b>Purpose</b>	<b>Regulating Agency</b>	<b>Permit or Approval</b>	<b>Applicability (Section Explaining Conformance)</b>
Public Resource Code §§25500 & 25527	Siting of facilities in certain areas of critical concern for biological resources, such as ecological preserves, wildlife refuges, estuaries, and unique or irreplaceable wildlife habitats of scientific or educational value, is prohibited, or when no alternative, strict criteria is applied.	USFWS and CDFG	Issues Biological Opinion or Authorization with Conditions after review of project impacts	There are no areas of critical biological concern in the project area.
Title 20 CCR §§1702 (q) and (v); and	Protects “areas of critical concern” and “species of special concern” identified by local, state, or federal resource agencies in the project area, including the California Native Plant Society (CNPS).	USFWS and CDFG	Issues Biological Opinion or Authorization with Conditions after review of project impacts.	There are no areas of critical biological concern in the project area.

## Impact Evaluation and Mitigation

This section describes the methods used to analyze potential impacts of the proposed Project to biological resources, potential impact mechanisms, and mitigation measures. Potential direct and indirect impacts to biological resources were evaluated to determine the temporary and permanent effects of the proposed Project construction, operation, and maintenance.

### Evaluation

Implementation of the proposed Project would include the following activities which could result in environmental effects.

- Temporary staging of heavy equipment, fuel, and supplies, and storage of topsoil.
- Temporary excavation, grading, and placement of topsoil from or in the existing basins.
- Temporary operation of equipment for construction of internal perimeters, levees, trails, signage, and grading and excavation of channels.
- Installation of drainage and other water-control infrastructure.
- Planting of native plant communities and installation of irrigation system.
- Ongoing management and maintenance activities necessary to maintain target habitats (e.g. activities associated with controlling invasive plant species), maintain operation and integrity of infrastructure (water drainage, floatable material removal, and control structures), and control mosquito populations.

It is anticipated that the proposed Project would require, at a minimum, the same activities for operation and maintenance as is currently undertaken at the proposed Project site. In addition, operation and maintenance would involve monitoring and maintaining the habitats, maintenance of trails, a higher level of trash and debris and periodic sediment removal from open water areas.

It is assumed that habitat-monitoring visits would occur about once a month with more frequent visits the first few months to ensure plant establishment. Habitat maintenance visits would occur at a similar frequency and would involve a few laborers to control invasive species, maintain plant health, and replace plants as needed.

### Construction

#### Existing Vegetation and Wildlife Habitats

Construction of the proposed Project would generally remove all existing native and non-native habitats on the East, West, and Market Street Basins by clearing, grubbing, and earth moving activities. This would include removal of the non-native woodland within the Market Street Basin, ruderal habitats within all the basins, and emergent marsh and willows within the East and West Basins. Some of the existing riparian woodland and native trees within the northern segment of the Market Street Basin would be preserved. The quality of the land as wildlife habitat is marginal but could be used seasonally by foraging birds and small mammals. Because the existing vegetation communities are degraded, the potential

impact of removing them would be less than significant. Furthermore, because the degraded existing vegetation communities would be replaced with high quality riparian and wetland habitats, the net impact from the proposed Project on vegetation and wildlife would be beneficial. The restored native habitats are expected to support a variety of native plants and wildlife, and provide preferred habitat over the existing non-native or degraded native habitats.

### **Jurisdictional Waters of the United States Including Wetlands**

No jurisdictional wetlands or waters of the U.S. are present on the East, West, and Market Street Basins. Degraded marsh and riparian areas occur on site; however, the East, West, and Market Street Basins are owned and operated by DPW and were constructed for stormwater detention and infiltration for flood management and groundwater recharge. Therefore the East, West, and Market Street Basins are not jurisdictional under Section 404 and 401 of the CWA.

Improvements to the proposed Project include the addition of a diversion structure to bring flow from the River to the Market Street Basin to provide a supplemental source of water for the proposed wetlands. The structure would consist of a rectangular concrete box buried underneath the bed of the River, adjacent to the low flow channel. Access to the River for construction would be from the existing maintenance ramp. The River is considered a jurisdictional water of the U.S., therefore, the proposed Project would require a Section 404 Permit from the USACE and a Section 401 Water Quality Certification from the RWQCB, under the CWA. The temporary construction impact area to the jurisdictional water of the U.S. was calculated and is approximately 0.25 acres of concrete channel. There would be no permanent impacts to jurisdictional waters because all of the structures would be under the bed of the River as water would flow through a screen flush with the side of the low flow channel.

### **Stream Bed and Bank Under Section 1600 Jurisdiction**

The East, West, and Market Street Basins are owned and operated by DPW and were constructed for stormwater detention and infiltration for flood management and groundwater recharge. Therefore the East, West, and Market Street Basins are not CDFG jurisdictional under Section 1600 of the California Fish and Game Code.

Improvements to the proposed Project include the addition of a diversion structure to bring flow from the River to the Market Street Basin to provide a supplemental source of water for the proposed wetlands. The structure would consist of a rectangular concrete box buried underneath the bed of the River, adjacent to the low flow channel. Access to the River for construction would be from the existing maintenance ramp. Alterations to the bed and bank of the River would require a Stream Bed Alteration Agreement from CDFG under Section 1600 of the California Fish and Game Code. The temporary construction impact area to the CDFG jurisdictional area was calculated and is approximately 0.25 acres of concrete channel. There would be no permanent impacts to the bed or bank of the River because all of the structures would be under the bed of the River as water would flow through a screen flush with the side of the low flow channel.

### **General Impacts to Wildlife**

Removal of non-native or degraded native habitats may result in direct mortality to wildlife using the site, including breeding birds, or resident mammals, amphibians, and reptiles.

Impacts to special-status wildlife are addressed below. The loss of active bird nests or young would be regulated under the federal Migratory Bird Treaty Act and other state regulations, and would represent a significant adverse impact, requiring mitigation. The loss of common wildlife from construction of the site would not represent a significant adverse impact, as these species are regionally common, and are expected to recolonize the site after restoration of the habitats.

### **Special Status Plant Species**

The proposed Project site does not support quality habitat for any special status plant species; however, some limited potential for occurrence of special status plants may exist. The loss of populations of special status plants, if present, would represent a significant impact, requiring mitigation. Focused surveys for rare plants are proposed prior to ground disturbing activities to determine if rare plants are present on the site.

### **Breeding Special Status Birds**

The site is not expected to support breeding by federally-listed bird species, including least Bell's vireo or southwestern willow flycatcher. As such, no impacts to these species from the proposed Project are anticipated.

There is limited potential for the site to support breeding Cooper's hawk, yellow warbler, loggerhead shrike, burrowing owl, and other special-status bird species. The loss of nests or individuals of these species would represent a significant adverse impact, requiring mitigation.

### **Transient Special Status Birds**

Some special status birds may forage in the proposed Project site, including Cooper's hawk, peregrine falcon, or yellow warbler. The construction activities would temporarily render the site unusable by these species. However, there is currently limited quality habitat available for these species, and with completion of the proposed Project, the habitat quality for these species will greatly improve, resulting in a net beneficial impact to these species.

### **Other Special Status Wildlife**

Some other special-status wildlife species may be present on the proposed Project site, including coast horned lizard, and two-striped garter snake. Because habitat is marginal for these species, and because their populations have been severely reduced in the lower Los Angeles Basin area, there are not likely to be substantial populations of these species on the proposed Project site. As such, the potential impacts from the proposed Project are anticipated to be less than significant.

Potential exists for wintering colonies of monarch butterflies on the proposed Project site within sheltered trees. However, no roost trees have been observed during field surveys nor otherwise reported. These sites are generally well-documented and would have been observed in the frequently visited basins. As such, the presence of roost trees for wintering butterflies are presumed absent, and no impact is anticipated.

### **Noise and Lights from Construction and Safety**

The proposed Project site is adjacent to developed areas with standard lighting and significant noise. Harassment could result from noise and construction activities that temporarily prevent wildlife from foraging and nesting. Noise or other proposed Project related activities could disturb wildlife using the site. Generally, this impact is anticipated

to be less than significant, as it would only affect the relatively degraded habitats currently on site.

Bright night lighting could disturb wildlife (e.g., nesting birds, foraging mammals, and flying insects). To avoid this impact, safety lighting would be directionally shaded and/or pointed toward the ground to minimize impacts to wildlife.

## Operation

### General

Wetland and riparian habitats are expected to increase under the restoration alternatives. Development of these areas would substantially increase the area of suitable waterfowl nesting habitat. Based on results from nearby habitat restoration projects in the vicinity of Dominguez Gap, a number of desirable wetland and riparian bird species will colonize the area once habitat is restored. This may include breeding least bittern (*Ixobrychus exilis*), tricolored blackbird (*Agelaius tricolor*), ruddy duck (*Oxyura jamaicensis*), blue grosbeak (*Guiraca caerulea*), downy woodpecker (*Picoides pubescens*), and loggerhead shrike (*Lanius ludovicianus*). This impact is considered beneficial.

### Vector Breeding and Colonization

Surface flow treatment wetlands designed solely for water quality improvements may have potential for providing areas conducive to mosquito breeding. However, multipurpose treatment wetlands similar to the proposed Project often incorporate design features that are not favorable for mosquito breeding (Gerke, 2005. Included herein as Appendix C). Such features include deep, open water areas, diverse vegetation, and the ability to rapidly dewater vegetated areas. Open water areas are not likely to support mosquito production, but will support fish and aquatic invertebrates that assist in controlling mosquito populations. The majority of mosquitoes will exploit heavily vegetated littoral zones that are designed such that they permit relatively easy access for mosquito monitoring and control agents.

Mosquito populations in treatment wetlands typically increase as water quality and flow velocity decrease and vegetative cover increases (Walton, 2002). Design of the wetlands includes multiple habitats that will create a diverse assemblage of plant and animal species. This diversity coupled with an active vegetation management plan will minimize mosquito breeding habitat. The proposed hydraulic loading rates and promotion of plug flow hydraulics will provide sufficient flow velocities to minimize stagnant water in the treatment wetlands, also minimizing mosquito breeding habitat. These design features coupled with an active larval monitoring and control program will likely result in the proposed Project facilities posing no greater mosquito threat than existing natural wetlands (Davis, 1984; Carlson and Knight, 1987). In short, the proposed Project is not expected to cause a net change in current populations of mosquitoes and other nuisance organisms when compared to existing Basin land uses (irrigated turf areas, unmanaged areas of the Los Angeles River, uncontrolled tributaries to the Los Angeles River, golf course drainages, existing degraded wetlands, storm drains, and other water bodies).

Specific measures to reduce potential impacts from mosquito populations can be found in the Vector Control Plan, The County of Los Angeles Department of Public Works, Dominguez Gap Wetlands. 2005. The Vector Control Plan will be implemented as a part of the Proposed Project. With implementation of the Vector Control Plan, mosquito or other

nuisance insect production is not likely to increase above existing baseline conditions, and the impact from this on surrounding land uses is expected to be less than significant.

## Mitigation

Mitigation measures for impacts to biological resources were recognized above. These mitigation measures would be included as part of the proposed Project. Specifically, Mitigation Measures 1 through 5 have been identified to help reduce construction-related biological resources impacts.

### Construction

- M-1 A worker awareness handout would be provided to all onsite personnel. The handout would specify sensitive biological resources, protection measures, and individual responsibilities. The handout would also identify appropriate contact procedures and personnel information should sensitive biological resources be encountered.
- M-2 Vegetation would not be cleared until late in the bird breeding season, when the young have fledged the nest, to avoid impacts to breeding birds. Vegetation clearing would begin after June 15 in most habitats. If clearing vegetation is required prior to June 15, then breeding bird surveys would be conducted to identify potential nests within the habitats to be cleared prior to June 15. If nests are identified, the site would not be cleared until it is verified that the young have fledged. This would serve to avoid impacts to all breeding birds, including special status birds such as Cooper's hawk or yellow warbler.
- M-3 To ensure that there are no impacts to special status species, rare plant surveys of the affected area would be conducted prior to initiation of construction activities. If rare plants are identified, appropriate measures would be developed to avoid, minimize, or mitigate impacts. Appropriate measure may include plant relocation, topsoil and seed bank protection, or other measures.
- M-4 Preconstruction surveys for burrowing owl would be conducted according to California Department of Fish and Game requirements to determine if any habitat in construction areas is occupied by burrowing owl. If burrowing owl are identified, appropriate measures would be developed to protect them. Appropriate measures may include passive relocation and/or restriction of construction activities within 150 feet during non-breeding season or 250 feet of active burrowing owl nest burrows during breeding season (February 1 through August 31).
- M-5 To minimize potential impacts to areas used as forage by migratory birds and raptors, the following measures would be implemented:
- Infrastructure design including trail and lighting would be sited in previously disturbed areas, when feasible.
  - Safety lighting would be directional or pointed downward to reduce affects on wildlife.
  - Implement Mitigation Measure M-2.

## Operation

No significant adverse biological resources impacts were identified as a result of project operation; therefore, no mitigation measures are required.

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APPENDIX D

## Mosquito Evaluation and Vector Control Analysis Study

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**Vector Management Plan**  
**The County of Los Angeles Department of Public Works**  
**Joint Dominguez Gap and DeForest Treatment Wetlands Project**

**Author: Wass Gerke + Associates, Inc.**  
**Revisions: CH2M HILL**

**Date: June 18, 2005**

## **1.0 Introduction**

The Joint Dominguez Gap and DeForest Treatment Wetlands Project (Project) is proposed by the Los Angeles County Department of Public Works (LACDPW) and the City of Long Beach. It involves creation of treatment wetlands and habitat and recreational improvements to the Dominguez Gap Spreading Grounds and the DeForest Nature Center. The Project is located in the City of Long Beach immediately adjacent to the Los Angeles River. The Dominguez Gap portion of the Project is south of Del Amo Boulevard and consists of two basins, the West Basin located on the west side of the Los Angeles River, and the East Basin situated east of the Los Angeles River (LA River). Both systems are located between East and West Del Amo Boulevard to the North and the 405 Freeway to the South. The DeForest Nature Center or Market Street Basin portion of the Project is located north of Del Amo Boulevard on the east side of the LA River.

In the Dominguez Gap Spreading Grounds, stormwater runoff enters the East Basin which in turn can route water to the West Basin via an existing siphon underneath the LA River. Currently, only the West Basin is still actively managed for groundwater infiltration. The East Basin serves as a stormwater retention facility, and has storm drain inputs and a pump station for pumping stormwater out to the LA River. There is an existing degraded wetland within the bottom of the East Basin. The East Basin will be configured into an approximately 9-acre surface flow (SF) constructed wetland with 3 acres of emergent marsh intermixed with 5 acres of open water and 0.3 acres of transitional marsh. Completing the habitat will be 2.7 acres of riparian woodland and 13.8 acres of native scrub. The East Basin is bordered to the east by residential landuse, the LA River on the west and is close to Deforest Park which includes sports fields and other turf areas. The West Basin currently consists of an open infiltration basin with scattered non-native trees and weedy growth on banks above the infiltration areas. The West Basin is proposed to have an unvegetated impoundment area surrounded with 1.1 acres of riparian woodland and 3.3 acres of native scrub vegetation. Both basins have existing or proposed Operations and Maintenance (O&M), and multi-use roadways and/or trails that provide access around their entire perimeters. It is expected that the two basins will work in concert to improve the quality of stormwater and dry-weather runoff from contributing landuse(s) prior to entering the LA River.

The Market Street Basin functions primarily as a stormwater detention basin, with a number of storm drain inputs in the north and central portions of the site, and a centrally-

located pump station to discharge storm flows to the LA River. The northern portion of the site (north of Long Beach Boulevard) has been planted and developed as a natural area, containing woodland trees (primarily non-native with a few natives mixed in) and trail facilities. Vegetation in the southern portion of the Market Street Basin is primarily non-native weedy species. The northern segment of the Market Street Basin will be configured into wetlands and riparian habitat. The southern segment of the Market Street Basin will be planted with native scrub vegetation and be maintained to support native habitats. The wetland within the Market Street Basin will be an approximately 9.7-acre surface flow (SF) constructed wetland with 4.7 acres of emergent marsh intermixed with 4.9 acres of open water and 0.1 acres of transitional marsh. Completing the habitat will be 3.6 acres of riparian woodland and 20.4 acres of native scrub.

Due to the juxtaposition of the wetlands to residential area(s) and park facilities to the proposed Project, it is prudent to discuss potential vector and nuisance organism impacts and to develop a control strategy for the proposed Project facilities.

Surface flow treatment wetlands designed solely for water quality improvements may also have significant potential for providing areas conducive to mosquito breeding. Often times such systems receive lagoon effluents and other partially treated wastewaters with the goal of improving the quality to full secondary standards. Such systems may pose the greatest potential for mosquito breeding because of the combination of high strength wastewaters and dense emergent vegetation. Conversely, multipurpose treatment wetlands similar to the proposed Project facilities often incorporate design features that are not favorable for mosquito breeding. Such features include deep, open water areas, diverse vegetation, and the ability to rapidly dewater vegetated areas. Open water areas are not likely to support mosquito production, but will support fish and aquatic invertebrates that assist in controlling mosquito populations. The majority of mosquitoes will exploit heavily vegetated littoral zones that are designed such that they permit relatively easy access for mosquito monitoring and control agents. Similar systems are being used increasingly in the southwestern U.S. to improve the water quality of stormwater and dry-weather flows, reclaim water, provide habitat for wetlands wildlife, educate the public on issues related to water and wildlife and conservation, and to fulfill other goals (Walton, 2000). These treatment wetlands have proven effective for treatment of a variety of wastewaters (e.g., domestic and municipal wastewaters, storm water and agricultural runoff, and industrial process waters), but when not properly designed and maintained have also been found to support mosquitoes and other nuisance organisms, which may raise potential conflicts with neighboring human populations. Population trends of immature and adult mosquitoes differ markedly among treatment wetlands depending on water quality, vegetative cover, flow rate, predator activity, and the working relationship between wetland managers and mosquito control personnel that promotes immediate attention to potential problems (Walton, 2000). Personnel charged with mosquito control have been practicing integrated pest management almost 75 years before the term was coined and the need to utilize a variety of methods to control mosquitoes was recognized in the early 20<sup>th</sup> century (AMCA, 1995). Control measures can include habitat minimization, surveillance, and biological methods that target mosquito larva. Research at more recent constructed wetland facilities has demonstrated

that an integrated approach is still necessary in order to achieve effective control of mosquito production (Williams et al., 1997; WGA Inc., 2003).

Mosquito populations in treatment wetlands typically increase as water quality and flow velocity decrease and vegetative cover increases (Walton, 2002). The proposed Project will be supplied with urban stormwater and dry-weather runoff from the surrounding landuses. Based on surface water sampling within the Project watershed conducted in 1999, dissolved oxygen concentrations in the source water averaged 7.90 mg/L with a maximum 9.0 mg/L and a minimum of 6.60 mg/L. For the same time period,  $\text{NH}_3\text{-N}$  averaged 0.24 mg/L and  $\text{NO}_3\text{-N}$  0.62 mg/L, while Ortho phosphorous averaged 0.25 mg/L. Although the source water is far from pristine, as can be seen, it is of relatively high quality in comparison to higher strength wastewaters typically treated using engineered wetland systems.

Design of the wetlands includes multiple habitats that will create a diverse assemblage of plant and animal species. This diversity coupled with an active vegetation management plan will minimize mosquito breeding habitat. The proposed hydraulic loading rates and promotion of plug flow hydraulics will provide sufficient flow velocities to minimize stagnant water in the treatment wetlands, also minimizing mosquito breeding habitat. These design features coupled with an active larval monitoring and control program will likely result in the Project facilities posing no greater mosquito threat than existing natural wetlands (Davis, 1984; Carlson and Knight, 1987). In short, the proposed Project is not expected to cause a net change in current populations of mosquitoes and other nuisance organisms when compared to existing Basin land uses (existing wetland and infiltration ponds, irrigated turf areas, unmanaged areas of the Los Angeles River, uncontrolled tributaries to the Los Angeles River, and golf course drainages and water bodies).

At least two nuisance organisms, Black Flies and Chironomid Midges, may be associated with the wetland and aquatic features of the Project facilities. Although not vectors of disease in the United States both organisms are capable of creating nuisance conditions, e.g. Black flies can be aggressive and inflict painful bites, while Midge Flies typically hatch in large numbers and can affect the public's enjoyment and recreational use of aquatic habitats just by their large numbers. Black fly larvae and pupae usually attach themselves to rocks and vegetation in slow moving streams. This type of habitat will be minimal in the Project facilities. Midge Flies are small insects that look like mosquitoes but lack the mouthparts needed to obtain a blood meal. Midge fly larvae occur in many types of aquatic and wetland habitats and typically live on the bottom. Like mosquitoes Midge Flies have a pupal stage. If suitable habitat is present for either of these two nuisance organisms, they can be managed using the techniques presented in the integrated pest management plan for mosquitoes located at the end of this report.

The remainder of this memorandum includes a narrative description of the potential risk for mosquito vectors associated with the Project facilities, including a summary of mosquito-borne diseases in the U.S. and California, and list of mosquito vector species occurring in Los Angeles County. A preliminary integrated pest management plan is developed based on current practices in the region and experience with operation and

management of treatment wetlands in the semi-arid southwest. A summary of site-specific characteristics for the Project facilities concludes this memorandum.

## 2.0 Risk from Mosquitoes

Mosquitoes are an integral component of many aquatic/wetland systems and their sheer numbers indicate some importance as a food source for desirable fauna. Certain mosquito species may at times also serve as vectors of serious human and animal pathogens. Some level of mosquito breeding will occur in engineered treatment wetlands systems, but these populations can be controlled through proper design, operation, and management. As such, the owner/operator of treatment wetlands must consider mosquito management throughout the development of the project and for the life of the facility. This is especially important in urban areas where the juxtaposition of the treatment wetland to outdoor recreation, commercial, or residential areas may be very close.

A mosquito management plan begins with an understanding of the risks that mosquitoes pose. This understanding should include knowledge of the life cycles for the mosquito species that can be present in a given geographic location, coupled with the knowledge of what pathogens can be present and how these pathogens can be transmitted by mosquito species. A typical outbreak of mosquito-borne disease would generally include; 1) introduction of the pathogen by host/reservoir (e.g., migratory birds), 2) pathogen activity in the mosquito species vector taking blood meals from reservoir host, and 3) transmission from the mosquito species vector to the dead-end host for the virus (e.g., humans, horses, etc.). The size of the mosquito species vector population, the survival of infected adult species to permit multiple blood meals, and the propensity of mosquitoes to feed on different vertebrate host species are among the important factors influencing dynamics of disease outbreaks (Walton, 2000). If either the pathogen or the mosquito species vector is not present, there is little risk of mosquito-borne disease.

## 2.1 Mosquito-Borne Diseases

Mosquito-borne diseases are a major public health problem internationally with as many as 2.7 million people dying each year as a result of pathogens spread through mosquito vectors (FAMVIN, 2005). The World Health Organization (WHO) estimates that 300 to 500 million cases of malaria per year are caused by protozoan parasite(s) of the genus *Plasmodium*, which are transmitted primarily by *Anopheles sp.* mosquitoes. The majority of these cases occur in Sub-Saharan areas in Africa, Central and South America, the Indian Subcontinent, Southeast Asia, the Middle East and Oceania where the parasites and mosquitoes are present together (WHO, 2002). According to the WHO, more than half the deaths occurred in 6 countries (China, Democratic Republic of Congo, Ethiopia, India, Nigeria, and Pakistan).

In 1999, 1,540 cases of malaria and 90 cases of dengue were reported in the United States (CDC, 1999), this represents between 0.00054% - 0.00032% of the total yearly cases of malaria based on the WHO annual number of cases. A CDC study, 1963-2001, documented 123 deaths from malaria in the U.S. This is an increase of 26% (1,227 cases) from 1998 (MMWR, 1999). Two competent mosquito vectors, *Aedes aegypti*, recently renamed *Ochlerotatus aegypti* and *Aedes albopictus* could transmit dengue. From 1977 to

1994, a total of 2,248 suspected cases of imported dengue were reported in the U.S. (LACWVCD, 2004). By 1997, dengue had become the most important mosquito-borne viral disease affecting humans. The WHO estimates that there may be 50 million cases of dengue infection worldwide every year. The Dengue hemorrhagic fever (DHF) case fatality rate is approximately 5%. These malaria and dengue cases are frequently associated with tourists or immigrants who acquire their infection abroad, incubate during travel, and then become ill upon arrival in the United States, or relapse a previous infection (Rose, 2001). For example, an outbreak of 28 *Plasmodium vivax* malarial cases among undocumented agricultural workers was not detected until cases occurred among the resident population in San Diego in 1986 (Maldonado et al., 1990). Another example was an outbreak in a Houston neighborhood with immigrants from countries with Malaria transmission.

Reported cases of other mosquito-borne diseases are rare in the U.S., but five main virus agents of encephalitis have caused outbreaks; eastern equine encephalitis (EEE), La Crosse (LAC) encephalitis, St. Louis encephalitis (SLE), western equine encephalitis (WEE), and West Nile virus (CDC 2001). During the period of 1964 to 1997, these encephalitis diseases have accounted for a combined annual U.S. average of 220 reported cases per year (Table 1). During this time period in California, the combined annual average for these diseases is 5.2 cases per year with no reported cases in 1997.

Mosquitoes in the Southwestern United States are known to transmit at least 10 arthropod borne viruses (arboviruses), but only western equine encephalomyelitis (WEE), St. Louis encephalitis (SLE), and West Nile viruses have caused widespread illness in humans and are likely to be transmitted by mosquitoes associated with wetlands (Reeves 1990). West Nile (WNV) virus was first detected in New York State in 1999. In the U.S. since 1999, WNV human, bird, veterinary or mosquito activity has been reported to the CDC's ArboNet from all states except Alaska, Hawaii, and Oregon (CDC 2005). The ArboNet is a national, electronic surveillance system established by the CDC to assist states in tracking WNV and other mosquito-borne viruses. From 1999 through 2004, there have been 16,637 human cases in the U.S. with 654 deaths. During that time, California had 775 human cases with 23 deaths (CDC 2005). The first diagnosed case in California was during 2002. 771 of the human cases (99%) and all of the deaths occurred during 2004. Approximately 43% (328 cases) of the California cases and 57% (13) deaths occurred in Los Angeles County (GLAVCD, 2005). A total of 60 mosquito species have been found in WNV positive mosquito pools. Other potentially local and important diseases transmitted by mosquitoes include: Dengue fever, Dog heartworm, and as previously mentioned Malaria, although Malaria is not endemic to Los Angeles County (GLACVCD, 2005).

TABLE 1  
Selected Occurrence of Encephalitides in the U.S. from 1964 through 2004

Disease	Incidence	<sup>a</sup> Nationwide Annual Average (cases/y)	<sup>a</sup> California Annual Average (cases/y)	<sup>a</sup> California Annual Maximum (cases/y)	California 1997 (cases/y)	Comments
Eastern Equine Encephalitis (EEE)	Consistent annual average	4	0	0	0	200 cases in California from 1964 through 1998
La Crosse (LAC) Encephalitis	Consistent annual average	70	0.03	1 (1988)	0	Only one reported case in California from 1964 through 1988
St. Louis Encephalitis (SLE)	Intermittent epidemic transmission	128	3.6	28 (1989)	0	122 reported cases in California from 1964 through 1998
West Nile Virus		2,773 <sup>b</sup>	194 <sup>d</sup>	771 (2004)		16,637 reported cases in the U.S. from 1999 through 2004
Western Equine Encephalitis (WEE) <sup>c</sup>	Intermittent epidemic transmission	18	1.6	10 (1964&1968)	0	640 confirmed cases nationally 1964 through 1998. Four reported cases in California from 1973 through 1997
<b>Encephalitis Total</b>		<b>220</b>			<b>0</b>	

<sup>a</sup> Includes years 1964 through 1998.

<sup>b</sup> 16,6637 cases over 6 years

<sup>c</sup> 1964 through 2000

<sup>d</sup> 2002 through 2004 (776 cases)

Source: CDC, 2005

Although 14 mosquito-borne viruses are known to occur in California, only WEE, SLE, and WNV have caused significant outbreaks of human disease (DHS and MVCA, 2001 CDC, 2005) California is at risk for introduction of other mosquito-born viruses such as Japanese encephalitis, dengue, West Nile virus, yellow fever, Rift Valley fever, and Venezuelan encephalitis (Rose 2001). Potential exposure to these viruses is significant as there are no known specific treatments or cures for many of the diseases they cause, vaccines are generally not available for public use (CDC, 2001). As such, mosquito control is the only practical method of protecting people and animals from mosquito-borne diseases (DHS and MVCA, 2001).

## 2.2 California Mosquito Species of Concern

Mosquito species found in treatment wetlands can be classified into two groups based on their egg laying and hatching behavior. Females of some species lay their eggs directly



on the water surface or on the leaves of aquatic plants. The eggs hatch usually within a few days and do not need an external hatching stimulus. These behavioral traits are characteristic of mosquitoes of the following genera (or subgenera): *Anopheles*, *Coquillettidia*, *Culiseta*, *Culex*, *Mansonia*, and *Uranotaenia*. By contrast, the eggs of floodwater mosquitoes in the genera *Aedes* and *Psorophora* normally are deposited on moist soil or debris on the shore and around aquatic systems and do not hatch until submerged by rising water levels (Mattingly, 1971). These differences in egg laying and hatching have major impacts on the types and species found in treatment wetlands. Systems with minimal or infrequent water level fluctuations seldom generate severe floodwater mosquito problems. On the other hand, permanent or semi permanent aquatic systems, especially those containing emergent or floating plants in nutrient-rich wastewater, may provide suitable habitats for the immature stages of several species that deposit their eggs on the water surface or aquatic vegetation.

There are over 50 known species of mosquitoes residing in California. Fourteen (14) of these species are known to live with the Greater Los Angeles County Vector Control District (GLACVCD), nine (9) of which are considered as competent vectors of disease (GLACVCD, 2005). Mosquitoes known to occur within the GLACVCD include: *Culex tarsalis*, *Culex quinquefasciatus*, *Culex erythrothorax*, *Culex stigmatosoma*, *Culex thriambus*, *Culex restuans*, *Aedes albopictus*, *Anopheles franciscannus*, *Anopheles hermsi*, *Culiseta incidens*, *Culiseta inornata*, *Culiseta particeps*, *Ochlerotatus sierrensis*, and *Ochlerotatus washinoi*. Of these 14 species, *Anopheles franciscannus*, *Culiseta incidens*, *Culiseta inornata*, *Culiseta particeps*, and *Ochlerotatus washinoi* are not known to carry disease in California (GLACVCD, 2005). *Culex tarsalis* is the most notable as the principal vector of St. Louis Encephalitis, (SLE) Western Equine Encephalomyelitis (WEE), and WNV in California. *Culex quinquefasciatus*, is considered to be a vector for WNV and a secondary vector of SLE and WEE in Southern California. Although *Culex erythrothorax* is found naturally infected with SLE virus, it is generally not considered a vector for SLE. Instead, it is considered a potential vector for WNV. *Culex stigmatosoma* may act as an enzootic amplifier of SLE (secondary vector). *Anopheles hermsi* is also documented in the GLACVCD and could be a competent vector for malaria. *Culex thriambus* and *Culex restuans* are potential vectors for WNV. *Aedes albopictus* is a potential vector for dengue fever, WNV, and other encephalitis viruses. Lastly, *Ochlerotatus sierrensis* is a canine heartworm vector. All of the above-mentioned mosquito species require standing water for egg laying and as such, could breed if conditions are appropriate in the Project facilities.

The SLE arbovirus has a primary enzootic cycle in the Southwest involving *Culex tarsalis* and birds in the orders Passiformes (e.g. house finches, house sparrows) and Columbiformes (e.g. mourning doves, common ground doves) (McLean and Bowen, 1980; Mitchel et al., 1980). After amplification in the primary cycle, secondary SLE vectors include *Culex quinquefasciatus* and possibly *Culex stigmatosoma*. The WEE arbovirus primary enzootic cycle also involves *Culex tarsalis* and birds of the orders Passiformes, Columbiformes, and additionally the order Galiformes (e.g., Gambel's and California quail). The WNV arbovirus primary enzootic cycles involves mosquitoes from the genus *Culex sp.* and has been found to involve more than 70 bird species with notable

infections in members of the bird family Corvidae. Symptoms of all three viruses are similar and range from unapparent to mild flu-like to meningitis to encephalitis. California marsh-breeding mosquito species associated with SLE, WEE, West Nile virus, and malaria are summarized in Table 2.

TABLE 2  
California Marsh Breeding Mosquito Species Representing Vector Potential

Disease	Mosquito Species Vector	Reservoir/Host Species
St. Louis Encephalitis (SLE)	<i>Culex tarsalis</i> , <i>Culex quinquefasciatus</i> <sup>a</sup> , <i>Culex stigmatosoma</i> <sup>a</sup> , and <i>Culex erythrothorax</i> <sup>b</sup>	house finches, house sparrows, mourning doves, common ground doves
Western Equine Encephalitis (WEE)	<i>Culex tarsalis</i>	house finches, house sparrows, mourning doves, common ground doves, Gambel's and California quail
West Nile Virus	<i>Culex sp.</i> and Unknown Others <sup>c</sup>	Infection has been reported in > 70 bird species. Primary Surveillance Focused On Corvid Birds (Crows, jays, ravens, magpies and related birds. These and other species of birds have developed illness when infected with WN virus).
Malaria	<i>Anopheles freeborni</i> , <i>Anopheles hermsi</i> , <i>Anopheles punctipennis</i>	Humans; Primarily International Travelers and Immigrants

<sup>a</sup> May act as an enzootic amplifier of SLE viruses in nature

<sup>b</sup> Naturally infected with SLE viruses, but generally not considered a vector

<sup>c</sup> May include floodwater mosquitoes of the genus *Psorophora*

Although multiple species of mosquitoes that occur in the Los Angeles area are capable of transmitting arbovirus to humans, SLE, WEE, and WNV demonstrate low percentages of clinically apparent cases (e.g. infected persons showing symptoms) and of those apparent cases, low mortality rates. This information is summarized in Table 3.

Dog heartworm is also endemic in California (Wright and Boyce 1989), where coyotes provide a natural reservoir. Over 70 species of mosquitoes can support the worm (*Dirofilasia immitis*) including representatives of the species *Culex*, *Aedes*, and *Anopheles*. The primary dog heartworm vector in Southern California is *Ochlerotatus* (*Aedes*) *sierrensis* (LACWVCD), which is found locally throughout Los Angeles County.

TABLE 3  
California Marsh Breeding Mosquito Species Representing Vector Potential

Disease	% or Number of Clinically Apparent Cases	% Mortality
St. Louis Encephalitis (SLE)	< 1%	3-30% <sup>c</sup>
Western Equine Encephalitis (WEE)	0.2 – 1.0% <sup>a</sup>	< 3% <sup>a</sup>
West Nile Virus	328 <sup>a</sup>	7% <sup>d</sup>
Malaria	1,540 cases <sup>b</sup>	0.5 approx. <sup>b</sup>

<sup>a</sup> Resien and Monath 1989

<sup>b</sup> U.S. reported cases with onset symptoms during 1999 (MMWR, 1999)

<sup>c</sup> GLACVCD, 2005

<sup>d</sup> 7% mortality rate based upon 23 fatalities from 328 total human cases of WNV reported in the GLACVCD as of the end of 2004 (GLACVCD, 2005). Nationally, the mortality rate is approximately 4%, based upon 654 fatalities from 16,637 total cases of WNV in the U.S. as of the end of 2004.

### 3.0 Mosquito Control for the Proposed Project Wetlands

Mosquitoes capable of serving as vectors in Los Angeles County (Table 2) are manageable using accepted mosquito management methods. As summarized by Rose (2001):

“Mosquito control in the U.S. has evolved from reliance on pesticide application for control of adult mosquitoes to integrated pest management programs that include source reduction, surveillance, larvicide, and biological control, as well as public relations and education. Surveillance programs track disease by monitoring wild bird hosts and sentinel chicken flocks, vector-borne pathogens in mosquitoes, adult and larval mosquitoes and larval habitats, and conduct follow-up to complaints and reports by the public. Seasonal records are kept in concurrence with weather data to predict seasonal mosquito larval occurrence and adult flights. When established mosquito larval and adult threshold populations are predicted or exceeded, control activities are initiated. Larval control allows for the use of target-specific agents in a definable area and is the preferred control alternative. The use of pesticides in the U.S. is avoided to the extent practical. During extreme flooding and when larval control is not possible or has been not been used to the fullest extent possible, pesticides can be used to control nuisance and disease bearing mosquitoes. If pesticides are used, human exposure in residential areas is uncommon because of the very low application rates, ultra low-volume methods, treatment at night when people are indoors, pesticide applicator training, and public pre-notification before application.”

An integrated mosquito management program similar to the one described above will be implemented at the Project facilities. Control of adult mosquito populations using adulticides (pesticides) is not part of the routine mosquito control program at the wetland

facilities; adulticides will not be utilized unless the unlikely event of a regional disease outbreak occurs.

Similar to many environmental management programs, mosquito control must be evaluated and conducted on a regional scale. An integrated approach including several management and control techniques is more effective than any single control alternative. The State of California alone implements a mosquito control program involving over 70 local agencies, including mosquito and vector control districts, environmental health departments, and county health departments (DHS and MVCA, 2001). During the remaining design phases for the Project facilities, the Los Angeles County Health Department (Vector Control) and the Departments of Public Works and Recreation and Parks will be asked to provide recommendations for mosquito management to ensure the greatest consistency with ongoing control programs. These groups often provide valuable design suggestions, management approaches, local information regarding the species of mosquito and nuisance insects that are present, and insight regarding local restrictions and certification requirements. These coordination efforts continue throughout the development of the project and for the life of the facility.

Coordination with the Greater Los Angeles Vector Control District regarding the proposed Project facilities should be initiated as soon as possible. The District will be able to point out issues regarding aquatic vegetation and the need to set aside funding for mosquito management purposes. It is likely that the District will desire to be involved in the project from its formulation through the operation of facilities after it is constructed. Further, the District can also likely supply current and historical data on adult mosquito populations in the immediate vicinity of the project. Once the project is constructed and operational, the District can assist in the surveillance portion of the integrated pest management plan as they continue to collect adult mosquito data in the area and screen for arbovirus activity using sentinel flocks.

The mosquito control program for the Project facilities is discussed below.

### 3.1 Treatment Wetland Design Considerations

Source/habitat reduction is often the most effective and economical method to control mosquito populations. There are several wetland design features that minimize the potential for mosquito production including:

- Adequate pretreatment of influent wastewater to lessen the production of larval mosquitoes
- The use of multiple wetland cells and parallel flow paths to allow operational flexibility
- The use of hydraulic control structures to rapidly de-water emergent marsh areas
- Levee design to allow for mowing and maintenance and the broadcast of mosquito control agents
- The incorporation of deep water zones for maintenance of predaceous vertebrates and invertebrates and to allow access for control efforts, if needed

- Selection of a diverse mix of plant species that optimize treatment while minimizing creation of productive mosquito habitats
- Planning for periodic plant maintenance.

Numerous studies detail an apparent relationship between mosquito production in treatment wetlands and poor influent water quality (Carlson and Knight, 1987; Collins and Resh, 1989; Kramer and Garcia, 1989). High levels of dissolved organic matter provide nutrients for algae and bacteria, which in turn serve as a food source and habitat for mosquito larvae. High levels of organic matter and associated decomposition processes also result in decreased dissolved oxygen concentrations, which often create an unsuitable environment for aquatic macroinvertebrates such as dragonflies, damselflies, and fish that prey on mosquito larvae (Mian et al., 1986; Walton et al., 1996 and 1997). Conversely, well-treated wastewaters or low strength urban stormwater and dry-weather runoff do not appear to support rapid and excessive mosquito outbreaks. Walton and Workman (1998) report that treatment of influent waters to secondary standards may limit average mosquito larvae to 200 per dip in treatment wetlands. However, this is still above typical densities of 0.2 – 0.25 larvae per dip. Proper design and management of the Project facilities combined with the relatively low strength runoff from surrounding landuses are likely to result in larval dip counts lower than these reported values for secondary quality influent.

The East Basin of the Dominguez Spreading Grounds and the northern portion of the Market Street Basin are slated for emergent marsh establishment. Operational flexibility and maintenance access within the emergent marsh areas is available, thereby minimizing the potential for mosquito production. This includes being able to take the East Basin or the Market Street Basin out of service for routine vegetation/mosquito management. Existing or proposed maintenance access roads will provide equipment access for vector management activities. The size of the Project facilities are within the limits of commercially available broadcast equipment so that all emergent marsh areas are accessible from the roadways or trails that currently exist or are planned to be constructed along the wetland embankments effectively providing shoreline access to all wetland areas. These embankments are sized and will be finished to allow all-weather access of expected operation and management (O&M) vehicles and equipment. If boats are needed to access internal areas of the wetland, appropriate access via all-weather ramps should be supplied. The embankments are free of power lines and other obstructions that might limit O&M activities; however care must be taken in placing riparian woodland and scrub complexes so that they do not impact maintenance of wetland vegetation and or prevent the broadcasting of mosquito control agents into emergent marsh and transitional marsh zones.

Hydraulic control of the proposed wetland cells (inlet and outlet control structures) is important for both water quality considerations and mosquito management. Control structures are designed for effective water distribution and collection to promote plug-flow across the entire wetland width to minimize stagnant zones. Proper control of water depth is necessary as it influences hydraulic residence time and linear flow velocities. Higher flow velocities have been shown to reduce mosquito survival (Russell, 1999).

However, a quantitative estimate describing the relationship between mosquito survival and linear velocity is not available. Wetland grading includes a slight (0.001 – 0.005 percent) slope from inlet to outlet to facilitate draining when necessary for operation and or maintenance activities. Operation of the outlet structure should also facilitate the rapid dewatering of emergent marsh zones while maintaining water in the deep zone areas to serve as refugia for fish and other mosquito predators.

Vegetation management practices for treatment wetlands need to address the often contrary goals of mosquito abatement versus water quality improvement (Knight et al., 1999). A dense monoculture of emergent wetland vegetation can provide significant refuge for mosquitoes. However, wetland systems rely upon emergent vegetation to enhance treatment. Wetland vegetation has the ability to add reduced carbon to the wetland via photosynthesis, provide surface area for the attachment of microbes, shade the water surface thereby reducing algal populations, stabilize water temperature, sequester nutrients and trace metals in accreting sediments, and transport atmospheric gases to the root zone and microbial generated gases to the atmosphere (Vymazal et al., 1998). In summary, wetland vegetation is essential for pollutant removal as they provide an environment for microbial populations such as nitrifying and denitrifying bacteria.

Vegetation selection for treatment wetlands can include a diverse group of species that optimize both treatment and mosquito management. Collins and Resh (1989) developed a planting list that relates emergent and aquatic vegetation to potential mosquito production using four semi-quantitative ecological parameters. Quantitative mosquito sampling to assess this method of plant selection has not been completed, but the general rankings may provide valuable guidance for plant selection. Wetland design often includes zones of differing water depths to create diverse assemblages of aquatic plants and habitat types. In both the Dominguez Gap East Basin wetland facilities and the Market Street northern portion wetland facilities, open-water deep zones have been designed perpendicular to the main flow path provide hydraulic mixing and habitat for mosquito predator development. Inclusion of these numerous, smaller deep zones minimized the size of emergent plant zones, which facilitates predator fish access and maintenance activities. Periodic plant harvesting to reduce vegetation densities has had a positive effect on mosquito fish density and associated mosquito control (Nolte and Associates, 1997; WGA Inc., 2001).

### 3.2 Surveillance and Monitoring Program

It is recommended that the LADPW initiate a coordinated mosquito-monitoring program (larval and adult) prior to construction of the Project facilities to establish baseline mosquito populations for later use in assessment of potential impacts of the wetland on local mosquito population dynamics. The pre-construction monitoring plan should, at a minimum, characterize current breeding areas and type, number, and sex of mosquitoes in the area. Once constructed, the mosquito-monitoring program will be continued throughout the life of the facility and allow the owner/operator to determine if the mosquitoes caught on-site are competent vectors, “marsh-breeders”, “container breeders”, or flood water species that deposit eggs in moist sediments. This information will allow the owner/operator to determine if the adults caught on-site are likely breeding

within the wetland or are born elsewhere and travel to the wetland. This monitoring information also provides early notification if a health threat exists, or if it is merely a nuisance condition. This information coupled with information collected by the Greater Los Angeles County Vector Control District through arbovirus surveillance in wild birds and sentinel chicken flocks, and monitoring of vector-borne pathogens in mosquitoes, is used to generate the appropriate management response(s).

### ***3.2.1 Larval Mosquito Monitoring***

Field staff should be trained to conduct larval sampling consisting of “dipping” using a standard apparatus at designated locations throughout the treatment wetland and in adjacent areas. Many techniques exist to collect larvae and the effectiveness of each method differs. A single method is consistently used to minimize sampling bias (Knight et al., 1999). A quick dipping technique as described by Collins and Resh (1989) is adequate for most mosquitoes and can be used when dense emergent vegetation is present. If more than one individual is conducting the larval monitoring, it is recommended that dipping techniques are compared and standardized to minimize sampling variability.

Predetermined sample locations are selected to represent the distinct ecological zones of the treatment wetlands and surrounding area (e.g., marsh, open water, river, and within irrigated riparian areas). Within each sample location, replicate samples are generally collected every 15 to 20 feet, to total 25 dips for each location. The individual samples are combined, concentrated, and the organisms preserved with ethanol for later counts and identification. Larval counts include enumeration of individuals in each life stage, 1<sup>st</sup> through 4<sup>th</sup> instars, and pupae. If control methods include the use of ingested larvicides, the presence of older instars and pupae may be used to determine the need to increase dose, frequency, and coverage area, or method of application.

The focus of the integrated pest management program is to control the immature (larval) stages because this is more ecologically sound and cost-effective than control of dispersing adults. Sampling activities outlined above are conducted at a frequency that is greater than the time needed for the mosquito species of interest to develop from the 1<sup>st</sup> instar stage to adult, generally weekly during the warm months, March through October, and once a month from November through February.

### ***3.2.2 Adult Mosquito Monitoring***

Adult mosquito monitoring is conducted using several methods and commercially available traps. Some traps use colors or highly organic water as attractants, whereas others use a light source or CO<sub>2</sub>. Various methods and trap-types allow for selection/trapping of host-seeking, gravid, and/or resting adults, based upon project needs and budget. For marsh breeding and floodwater species that will occur at the Project facilities, Encephalitis Vector Survey (EVS) CO<sub>2</sub> baited traps are recommended, as they have proven very successful and economical for collection of host-seeking adults (Rohe and Fall, 1979). Monitoring of mosquito activity is subject to many factors (e.g., trap placement, wind, and humidity). These factors, project needs, and results from larval monitoring are evaluated to determine frequency of adult mosquito monitoring. Typically, numerous adult traps are set out at designated locations on a weekly or

monthly basis, which often varies seasonally. Mosquito traps are generally located around habitat transition zones (e.g., open water to marsh, marsh to riparian area, and riparian area to upland areas). To provide an indication of mosquito source(s) and direction, peripheral traps are placed approximately one mile outside the wetlands facility boundary in all directions, and/or data collected by others in the surrounding area is incorporated into a comprehensive mosquito population characterization plan.

Mosquito traps are typically operated from late afternoon until early morning, defined as a “trap-night.” Mosquitoes caught at each trap are transferred into plastic bags for transport to counting and identification facilities. Enumeration includes the number of females, number of males, and identification to genus and species.

Adult monitoring at the Project facilities should be conducted on a weekly basis throughout the year. At a minimum, five (5) traps should be located at equidistant intervals around both the East and West basins. Although final trap placement should be defined in the field, placement should concentrate in the areas where riparian woodland and native scrub interface.

### 3.3 Biological Control, Larvicide, and Adulticide

Mosquito control at the Project facilities will focus on larvae and pupae control using biological methods (mosquito predators and larvicides). Mosquito fish have been one of the most effective biological methods of controlling mosquitoes for over forty years (VCD, 2002). Biological control also includes natural predators (e.g., dragonfly nymphs and predatory macroinvertebrates) that eat larvae and pupae. Highly target specific larvicides that have minimal impact on non-target organisms and the environment will be utilized. The compartmentalization of treatment wetland system (e.g. emergent marsh intermixed with open water in all of the wetland areas), as well as dikes that can accommodate mosquito control equipment, allow for very direct mosquito control focused on small areas rather than more expensive and less direct basin wide applications of mosquito control agents (Walton, 2002). Adulticides will not be part of routine mosquito control activities, but could be utilized in the unlikely event of a disease outbreak in the region.

#### 3.3.1 Biological Control

The diverse assemblage of aquatic, riparian, and terrestrial vegetation at the proposed Project facilities will encourage development of a robust population of macroinvertebrates that include predacious diving beetles, damselflies, and dragonflies to assist in reducing mosquito larvae. Biological control of larvae provided by these predatory species will be supported through introduction of mosquito fish (*Gambusia affinis*). *Gambusia* is currently used for mosquito control in the Greater Los Angeles area. For instance, this occurs in the Sepulveda Basin at Lake Balboa the Wildlife Lake where local vector control agencies utilize these lakes as a source of *Gambusia* for their stocking efforts in other areas (Moe, 2002).

The name mosquito fish (*Gambusia affinis*) is derived from its voracious appetite for mosquito larvae. The species has been introduced into waters of almost every continent, and many oceanic islands. The hearty fish can withstand environmental extremes



including temperatures ranging from 33°F to 107°F (Knight et al., 1999). Water temperatures measured within the East Basin of Dominguez Gap within the existing ponded water in 1999 indicated an average of 61.3°F while ranging from a low of 53.6°F to a high of 68.9°F which indicates from a water temperature standpoint that *G. affinis* can survive and flourish within this system. This range of temperatures would likely be representative of conditions within the wetlands cells created in the proposed Project. *Gambusia* can survive at a pH range of 5 to 9.5, (which is within the pH range measured at the site) and is known to occur in cooling ponds with salinities as high as 15 parts per thousand. Successful reproduction has been noted in waters with a chemical oxygen demand (COD) ranging from 40 to 150 mg/l and survival is possible in waters with a COD as high as 200 mg/l (Coykendall, 1980; Meisch, 1985). It takes approximately 24 days for young to develop, and broods range from a few young to more than 300. A single female may produce up to 5 broods in a single lifetime (Krumholz, 1948).

The predatory activities of *Gambusia* are not restricted to mosquito and other insect larva, but include the young fish of its own and other species. The species has been considered undesirable in waters where native fish may be affected and requires a permit for use in waters of the state of California (title 14 CCR, Fish and Game Code, Section 1.63, Section 6400, and Section 238).

Mosquito control efforts at the Tres Rios Demonstration Constructed Wetlands that relied solely upon *Gambusia* and other biological predators were not effective. However, when the use of biologically derived larvicides and active vegetation management were added to the management program, mosquito larval control was achievable and on-going control efforts remain successful (WGA Inc., 2003).

### 3.3.2 Larvicides

Two *Bacilli* (*Bacillus thuringiensis* variety *israelensis* (*Bti*) and *B. sphaericus* (*Bs*)), which are microbial agents formulated as crystalline bacterial spores that are ingested by mosquito larvae and cause the cell walls of the larval digestive system to burst (VCD, 2002), are currently registered for use against mosquitoes in much of the United States. *Bs* is more effective against mosquitoes in organically enriched waters such as wastewater effluents but has a narrower host range. *Bs* is very effective in controlling *Culex sp.* mosquitoes and according to the product label is reported to control several other mosquito species including *Aedes vexans*, *Aedes melanimon*, *Aedes stimulans*, *Aedes nigromaculis*, *Aedes triseriatus*, *Aedes sollicitans*, *Anopheles quadrimaculatus*, and *Coquillettidia perturbans*. *Bti* controls a broader spectrum of mosquito species and can be used to control chironomids such as midge fly larvae.

*Bacillus* toxins are target specific and are safe to humans and other nontarget organisms under current application rates and modes of contact (Walton and Mulla, 1992). A possible pitfall of *Bs* is the potential for mosquito targets to develop immunity to the mosquitocidal toxins. *Bti* contains multiple toxins whereas *Bs* contains only one. To mitigate the possibility of developing a resistance to *Bs* at the Tres Rios Demonstration Wetlands facilities, *Bti* is applied in lieu of, or in combination with *Bs* once a month during peak mosquito seasons. On the forefront is the development of an agent that combines the *Bs* mosquitocidal toxin with those of *Bti* (Federici et al., 2003). Since both

agents are currently registered with the USEPA, it is thought that regulatory approval will be expedited and the new agent will be introduced on the commercial market in the near future (Walton, 2002).

Application of the granular larvicides in a slurry form is often done mechanically from truck-mounted equipment. This method allows more complete basin coverage and enhanced penetration of densely vegetated areas, which has resulted in significantly reduced larval counts. It typically takes 24 to 72 hours after treatment for complete larval mortality and the residual appears to control larval development for a period of 3 to 25 days post application, with less rapid mortality rates and longer residual control associated with *Bs*.

### 3.3.3 *Adulticides*

Adulticides will not be part of routine mosquito control activities, but could be utilized in the unlikely event of a disease outbreak in the region. Adulticide application still has a place in integrated pest management plans to reduce adult mosquito populations during times of disease outbreaks or when extreme numbers of nuisance mosquito are present even though this activity may cause anxiety in the general public (Rose, 2001). Human exposure in residential areas is uncommon because of the very low application rates (such as 1 ounce per acre), ultra low volume methods and treatment is typically conducted in the early morning under low wind and moderate temperature conditions when people are indoors (Rose, 2001). Adulticides are immediately effective, but is not entirely selective to mosquitoes hence mosquito predators and vegetation may be adversely impacted. Control efforts at the Project facilities will focus on source reduction (prudent wetland design and operation) and larval control. Adulticide application would only be used in the unlikely event of a true public health threat due to adult mosquito populations in the project area.

If necessary, ultra low volume (ULV) fogging is a method employed to control outbreaks of adult mosquitoes. There are several compounds to choose from including sumithrin, pyrethrin, malathion, and permethrin. Recent studies indicate that adulticides applied at mosquitoicidal dosages are not acutely toxic to common freshwater insects and aquatic invertebrates (Lawler et al., 1997). However, ULV application of malathion was used as an adulticide at the Tres Rios Constructed Wetlands Demonstration project in 1996, and was found to be toxic to the test organism, *Ceriodaphnia dubia* (Wass 1996, unpublished manuscript). The need has not since arisen for adulticide application since the 1996 event at Tres Rios, but if such actions were again needed at the site either a sumithrin based agent that has been used successfully at the Sweetwater Wetlands in Tucson, Arizona, or a pyrethrin based agent would be selected.

## 3.4 Public Relations and Education

Many agencies around the country have developed public education campaigns to help spread information on vector control. The Project facility features will provide an opportunity to educate the local community regarding the benefits of wetlands, such as water quality improvement and habitat creation in the urban environment. Additionally, a public outreach component which focuses upon educating the public about mosquitoes and vector control can assist staff in conducting their integrated pest control efforts. Such

a program is also invaluable as it serves as a basis for the community to understand when management steps are necessary and the means used to achieve mosquito control. Other communities have used the following methods to implement such programs:

- Websites
- Public services announcements (television and radio)
- Hotlines
- Door to door distribution of pamphlets
- Booths at local events
- Info in utility bills
- School programs (mosquito biology)

The objective is to inform the public about mosquitoes, their life cycles, and ways they can help reduce levels. The public needs to know how to get information about what to do, and who can help. Proper education produces an informed public who can understand life cycles of mosquitoes, and the effectiveness of vector control strategies.

In Alameda County, California, the Mosquito Abatement District sets up booths at the county fair and home and garden shows to help educate the public. In addition they have developed an education program for the schools that includes classroom presentations, educational materials, research projects, and grants). A focus of the grants is to educate on wetland research, restoration, and preservation activities.

Leon County Mosquito Control, in Florida, produces annual public service announcements aired on radio and television. They have also developed the Mosquito Hawk Education Program a public education program for 4<sup>th</sup> graders. Leon County also issues a brochure to new homeowners educating them on mosquito abatement strategies.

In Saginaw County Michigan, the Saginaw County Mosquito Abatement District has an extensive education program including a short story contest for elementary schools entitled “the Adventures of the Great Mosquito Detective.” The commission also airs a 13-minute video on the local public access channel during summer months. The commission believes “By understanding the mosquito’s life cycle, breeding habits, and methods of prevention and control, the public can be an integral factor in creating a more comfortable, disease-free environment.” ([www.scma.org](http://www.scma.org))

As part of the Project facilities, it is recommended that a public outreach and education component be developed. This program should draw on information and tools developed for use in existing local programs or such as those discussed above, but it should be tailored to the information needs, expectations, and perceptions of those living in or expected to frequent the proposed park.

#### **4.0 Potential Impacts of the Proposed Project Wetland Facilities**

The Project facility design has developed with an overall goal to improve urban stormwater and dry-weather runoff prior to entering the LA River. The wetland facilities (East Basin of Dominguez Gap and northern portion, Market Street Basin) contain open water aquatic areas, emergent marsh zones, and transitional marsh zones. These are surrounded by vegetation complexes consisting of native scrub and riparian woodland

vegetation. The East Basin Dominguez Gap and the northern portion of Market Street Basin wetlands are located within existing basins which are surrounded by multi-purpose access roads and/or trails. The West Basin of Dominguez Gap has an un-vegetated impoundment area with banks that will be planted with a mixture of native scrub and riparian woodland vegetative complexes. Specific vector control strategies will be presented for the following components of the Project Facilities:

1. East Basin Dominguez Gap and Market Street Basin Surface Flow Wetland Facilities
2. West Basin un-vegetated impoundment area

Mosquito habitat is likely to be minimal for West Basin un-vegetated impoundment area and all native scrub and riparian woodland habitats as long as irrigation is applied at agronomic rates, e.g. no runoff is permitted. The East Basin and Market Street Basin Surface Flow wetlands represent the greatest potential to provide mosquito breeding habitat. However, with proper design, operation, and management these wetland systems can offer very little suitable habitat for mosquito breeding.

The potential risks for the Project Facilities to provide mosquito breeding habitat, including the species most likely to be found, and site specific mosquito control activities are discussed below.

#### 4.1 Dominguez Gap East Basin and Market Street Basin Surface Flow Wetlands

Surface flow (SF) wetlands mimic natural wetlands in that water principally flows in a shallow manner (~1 foot) above the ground surface through a dense growth of wetland plants. SF wetlands may provide ideal mosquito habitats, but high rates of mosquito production is not as likely when they receive waters high in dissolved oxygen (DO) and low in nutrients similar to the water quality of surface waters documented for the watershed. The East Basin and Market Street Basin SF wetlands are designed for multiple uses including water quality treatment, wildlife habitat, and public use and education by including multiple habitats including open water areas. These open water features are not favorable for mosquito breeding, and the animals they support tend to further control mosquito populations. Most mosquitoes exploit heavily vegetated littoral habitats in systems with extensive shoreline development. Although any of the marsh breeding mosquitoes listed earlier can be expected to utilize this habitat type, it is likely that *Culex tarsalis* will be the most prevalent.

Mosquito management in this habitat type started with basin design and vegetation selection and will continue throughout the operation and maintenance phases where it manifests itself through hydroperiod modifications and maintenance of a diverse vegetative structure. Maintaining a diverse yet effective vegetative structure may require periodic drying of the wetland, seasonal or semiannual water level fluctuations, and/or removal of vegetative biomass via burning or mechanical means. Most techniques used to manage aquatic plant densities will not require replanting of the wetland. Often times, it is just the above-ground biomass that is removed which leaves a viable root system. Upon subsequent rewetting, macrophytes will regrow and the maintenance cycle can be repeated. It is unknown at this point when and if such actions may be required.

Ultimate control of vegetation density and mosquito breeding in the East Basin and Market Street Basin SF wetland facilities can also be gained through the complete dewatering of these systems. Water supply to the East Basin from the LA River can be shut off via existing gate valves. Water supply to the Market Street Basin from the LA River can also be shut off, as conveyance facilities are designed with valve shutoffs. This will allow the dewatering of the East Basin and Market Street Basin wetlands for maintenance.

Monitoring larval population dynamics will be the cornerstone of management when the SF wetlands are operational. Their presence, population, and stage will be used to assess the efficacy of biological treatments, indicate the need for treatment with biological larvicides, and provide insight into the success of larval controls. The design of the SF wetland basin is such that they facilitate larvicide applications. Unobstructed and all weather access is provided around each SF wetland basin to allow commercially available application equipment easy access to the wetland perimeter. Further, densely vegetated emergent areas are located such that complete larvicide coverage will be attained, and successful penetration of mosquito control agents through dense vegetation to the water column is achieved. Biological larvicides, like fish and other invertebrates that prey upon mosquitoes must be introduced into the wetland such that they are readily accessible by mosquito larvae. In dense macrophytic stands in Arizona, such application criteria and successful mosquito control has only been met by delivering mosquito larvicides by means of a water slurry broadcast through commercial hydro-seeding equipment (WGA, Inc. 2003; Levy, 2002). In short, water dispersible and granular formulations of VectoLex and/or VectoBac are broadcast over the wetlands using contracted commercial hydroseeding equipment. During the months of March through October, all basins receive the treatment every other week. During the remainder of the year, larvicide application frequency, type, and rate should be as depicted in Table 4.

#### 4.2 Larvicide Cost Considerations

The use of biologically derived larvicides is an important and effective tool in mosquito management of engineered wetland and riparian systems. Beyond the registration and applicator certification and permit considerations is the actual cost of the materials application. Table 5 provides an estimate of the material and equipment cost associated with larvicide application to the Dominguez Gap East Basin wetland based upon the frequency and rates shown in Table 4 above. It is assumed that the cost of contracting with a commercial hydroseeder is \$700.00 a visit. Larvicide application to the Market Street Basin wetlands is not shown, but is expected to be similar in frequency and cost per acre to apply, since wetland facilities are similar in layout, and have comparable accessibility.

Technical Memorandum  
WGA, Inc.

TABLE 4  
Estimated Mosquito Larvicide Application Frequency and Type (Note G/CG = VectoBac Granules, WDG = VectoLex Water Dispersible Granules)

Agent	Month	Hydroseeder Applications per Month	G/CG Amount <sup>a,b,d</sup> (lbs)	WDG Amount <sup>a,b,c</sup> (lbs)
BS	Jan	0 - 1	-	4
BS	Feb	1	-	4
BS	Mar	3	-	12
BS+BTI	Apr	2	40	4
BS+BTI	May	2	40	4
BS+BTI	Jun	3	60	6
BS+BTI	Jul	2	40	4
BS+BTI	Aug	2	40	4
BS+BTI	Sep	2	40	4
BS+BTI	Oct	2	40	4
BS	Nov	1	-	4
BS	Dec	0 - 1	-	4

<sup>a</sup> Assumes 3.7 acres of emergent and transitional marsh must be treated

<sup>b</sup> Assumes 3.7 acres of emergent and transitional marsh must be treated.

<sup>c</sup> Assumes WDG is applied at a rate of 1lb/acre

<sup>d</sup> Assumes BTi G/CG is applied at a rate of 10 lb/acre

TABLE 5  
Estimated cost associated with applying larvicides to the emergent and transitional marsh areas of the Dominguez Gap East Basin SF Wetland

Agent	Month	Hydroseeder Applications per Month	Cost/Apl.	G/CG Cost (\$)	WDG Cost (\$)
BS	Jan	0 - 1	\$ 700	-	\$ 148
BS	Feb	1	\$ 700	-	\$ 148
BS	Mar	3	\$ 2,100	-	\$ 444
BS+BTI	Apr	2	\$ 1,400	\$ 176	\$ 148
BS+BTI	May	2	\$ 1,400	\$ 176	\$ 148
BS+BTI	Jun	3	\$ 2,100	\$ 264	\$ 222
BS+BTI	Jul	2	\$ 1,400	\$ 176	\$ 148
BS+BTI	Aug	2	\$ 1,400	\$ 176	\$ 148
BS+BTI	Sep	2	\$ 1,400	\$ 176	\$ 148
BS+BTI	Oct	2	\$ 1,400	\$ 176	\$ 148
BS	Nov	1	\$ 700	-	\$ 148
BS	Dec	0 - 1	\$ 700	-	\$ 148
<b>Sum (\$/yr)</b>			<b>\$ 15,400</b>	<b>\$ 1,320</b>	<b>\$ 2,146</b>
<b>Total Cost =</b>			<b>\$ 18,866</b>		
<b>Total Cost per Acre =</b>			<b>\$ 5,099</b>		

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It should be stated that the larvicide application frequency and cost presented in Tables 4 and 5 are for the worst-case scenario. It is likely, given the relatively high influent water quality and diverse physical and biologic design of the Project wetlands that treatment costs will be reduced over those presented above. After the system is constructed, the proposed larvicide application plan can be optimized using larval and adult monitoring data specific to the site and savings realized.

#### 4.3 West Basin Un-Vegetated Impoundment Area

The Dominguez Gap West Basin has a large un-vegetated impoundment area that may or may not be inundated. Even though this area is not designed to support aquatic macrophytes and hence will not likely provide marsh-breeding mosquito habitat, there is still the potential for floodwater species such as *Psorophora* or *Aedes sp.* to utilize the site. As such, mosquito management must also be considered in this basin. It is unclear as to how frequently the West Basin will be inundated, therefore two scenarios must be considered.

If only portions of the basin invert are routinely inundated for more than 3 days, consideration should be given to the use of a solid formulation of *BTi*. Solid *BTi* is sold under the Trade Name “Mosquito Dunks” and only delivers larvicide when wet. Solid *BTi* comes in formulations that provide a range of treatment 30 to 150 days and treat approximately 100-ft<sup>2</sup> of standing water. If the West Basin is continuously inundated, the larvicide application method discussed for the East Basin SF wetland can be employed.

### 5.0 Summary

The Project Facilities (East and West Basins of Dominguez Gap and Market Street Basins) are not expected to increase localized mosquito populations compared to adjacent land uses, e.g., existing wetlands, LA River, golf courses, unmanaged urban drainages. The primary reason for this will be coordination with local and experienced vector control experts and professionals and the use of their insight and knowledge in the design of facilities which minimize mosquito producing habitats, maximize mosquito predators, and facilitates monitoring and control of larval mosquito stages. Further, the Project facilities will be operationally managed and the afore-mentioned comprehensive mosquito plan will be implemented.

To reiterate, the Project facilities mosquito management plan is an Integrated Pest Management (IPM) plan that starts with design, encourages coordination with local vector control agencies and experts, monitors site specific adult and larval mosquito populations through weekly monitoring efforts, and uses such information to respond with management actions including but not limited to wetland vegetation maintenance and prudent larvicide application.

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**APPENDIX E**

## Traffic Impact Analysis and Evaluation Study

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## MEMORANDUM

**TO:** Matthew Gordon

**FROM:** Netai Basu & Sean Mohn

**DATE:** April 28, 2005

**RE:** Joint Dominguez Gap and DeForest Treatment Wetlands Project  
Long Beach, California

**Ref:** 1883

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This memorandum summarizes the methods and results of traffic analysis conducted as part of the environmental analysis of the proposed Joint Dominguez Gap and DeForest Treatment Wetlands Project (Project). The Project would implement a multipurpose wetland development intended to (1) provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation, and education, (2) be safe to use, and (3) require minimal maintenance while maintaining the existing flood control capacity. The proposed Project is expected to be completed by the year 2007. The project site is located on Los Angeles County Flood Control District property along the Los Angeles River basin within the City of Long Beach, California.

## PROJECT DESCRIPTION

The proposed Project is located in the northwestern portion of the City of Long Beach, as shown in Figure 1, and is comprised of the Dominguez Gap Spreading Grounds and the Market Street Basin. The Dominguez Gap Spreading Grounds consist of two basins along the Los Angeles River: the West Basin (15 acres) extends north from about I-405 to the Metro Blue Line; the East Basin (34 acres) extends from Del Amo Boulevard to the Metro Blue Line. The Market Street Basin (38 acres) consists of two segments: the southern segment lies between Del Amo Boulevard and Long Beach Boulevard; the northern segment lies between Long Beach Boulevard and DeForest Park. The overall site acreage is approximately 87 acres, including approximately 11.3 acres of usable recreational space. Of this area, 6.8 existing acres will be unaffected by the project, 3.7 acres will be upgraded, and 0.8 acres will be added. This results in a net total of 4.5 acres of new and upgraded usable recreational space. These totals include the existing LARIO Trail (also known as the L.A. River Bike Path).

The proposed Project is currently accessible from Del Amo Boulevard (provides access to Dominguez East Basin and the southern segment of the Market Street Basin), Carson Street (provides access to Dominguez West Basin), the existing DeForest Park (provides access to the northern segment of the Market Street Basin), Long Beach Boulevard near Sutter School (provides access to both the northern and southern segments of the Market Street Basin), and the LARIO Trail (bike trail provides access to Dominguez East Basin and both the northern and southern segments of the Market Street Basin).

## **EXISTING TRAFFIC VOLUMES AND LEVELS OF SERVICE**

The assessment of existing conditions relevant to this study includes an inventory of the surrounding street system, existing traffic volumes on these facilities, and operating conditions at five key intersections. The following five intersections were analyzed in this study, each of which is signalized:

1. Susana Road & I-710 southbound ramps
2. Daisy Avenue South & Del Amo Boulevard
3. Daisy Avenue North & Del Amo Boulevard
4. Long Beach Boulevard & Del Amo Boulevard
5. Long Beach Boulevard & Market Street

Table 1 summarizes the physical characteristics of the major surrounding streets and diagrams of the existing lane configurations at each of the analyzed intersections are provided in Figure 2. New traffic counts were conducted for this study on Thursday, April 7, 2005. The base traffic count data is provided in Attachment C. Weekday morning and afternoon peak hour volumes were identified as the highest one-hour volumes in the periods between 7:00 a.m. and 9:00 a.m. and between 4:00 p.m. and 6:00 p.m. These traffic volumes are illustrated in Figure 3.

Level of service (LOS) is a qualitative measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. LOS D is typically recognized as the minimum acceptable level of service in urban areas. In accordance with the practice of the City of Long Beach, the "Intersection Capacity Utilization" (ICU) method of analysis was used to determine the intersection volume-to-capacity (V/C) ratio and corresponding level of service for the study intersections. Level of service definitions for signalized intersections are summarized in Table 2.

The existing level of service analysis is summarized in Table 3, which shows the V/C ratio and corresponding LOS at each of the study intersections. As shown in Table 3, the intersections are all operating at LOS D or better, except for the intersection of Long Beach Boulevard & Market Street, which is operating at LOS E in the afternoon peak hour. Level of service calculation sheets are provided in Attachment D.

## **FUTURE TRAFFIC CONDITIONS WITHOUT PROJECT TRAFFIC**

In order to evaluate properly the potential impact of the proposed project on the local street system, it was necessary to develop estimates of future traffic conditions both without (cumulative base) and with the proposed project (cumulative plus project).

The cumulative base traffic projections (without the addition of project traffic) were developed by increasing the baseline traffic volumes by a factor of 2% (1%/year from 2005 to 2007) to reflect the effect of regional growth and development and then estimating and assigning traffic from specific (related) projects in the vicinity that are known to be in development.

Information was obtained from the City of Long Beach for a total of four related projects in the project vicinity. These projects are described in Table 4 and their locations are illustrated in Figure 4. Trip generation for related projects was estimated on the basis of rates found in *Trip*



*Generation, Seventh Edition* (Institute of Transportation Engineers, 2003). As shown in Table 4, it was estimated that the four related projects would generate a combined total of approximately 229 trips during the weekday morning peak hour and approximately 206 trips during the weekday evening peak hour. These estimates are conservative in that they do not in every case account for either the existing uses to be removed or the likely use of non-motorized travel modes (transit, walk, etc.). The projected cumulative base traffic volumes are illustrated in Figure 4.

There are no currently planned improvements at any of the study intersections. The cumulative base LOS analysis is summarized in Table 5, which shows that the study intersections are all projected to operate at LOS D or better, except for the intersection of Long Beach Boulevard & Market Street, which is projected to operate at LOS E in the afternoon peak hour.

## **PROJECT TRIP GENERATION AND TRIP DISTRIBUTION**

Project trip generation was estimated on the basis of the total net new and upgraded recreational area, which is 4.5 acres, and was developed using the trip generation rates obtained from the *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region* (SANDAG, April 2002). These rates are summarized in Table 5. As shown in Table 6, it was estimated that the proposed Project would generate a total of approximately 23 daily trips, including three trips during the weekday morning peak hour and two trips during the weekday afternoon peak hour. These estimates are conservative in that they do not account for the likely use of non-motorized travel modes (transit, walk, etc.). The projected project-only traffic volumes are illustrated in Figure 5.

The geographic distribution pattern of project trips is dependent on the characteristics of the surrounding street system, the points of access to the project site, and the locations from which visitors could be drawn. The overall project trip distribution pattern is assumed to be 30% to/from the north and south and 20% to/from the east and west. Figure 5 illustrates the assignment of morning and afternoon peak hour project trips to the study intersections.

## **SIGNIFICANT IMPACT CRITERIA**

The City of Long Beach considers an intersection to be operating at an acceptable level of service if it is operating at LOS D or better. Any project that results in the degradation of an intersection to LOS E or F is considered to impact that location significantly. If an intersection is projected to operate at LOS E or F before the addition of project traffic, and if it causes the intersection volume/capacity ratio to increase by more than 0.02, then the project would also have a significant impact.

## **FUTURE TRAFFIC CONDITIONS WITH PROJECT TRAFFIC**

Figure 6 illustrates the projected cumulative plus project afternoon peak hour traffic volumes and Table 5 presents the results of the LOS calculations for the study intersections with incremental project traffic added. As shown, the addition of project traffic would only slightly worsen or would not affect operating conditions at the surrounding intersections. Using the

City's impact threshold, however, it was determined that the project would not create any significant traffic impacts. Because no significant project-related traffic impacts have been identified, no mitigation measures are required for the proposed project.

## **NEIGHBORHOOD STREET SEGMENT ANALYSIS**

In order to assess the existing conditions on the local streets surrounding the proposed project, existing weekday daily traffic volume data (also known as average daily traffic or ADT) was collected at each of the following locations on Thursday, April 7, 2005 and Tuesday, April 12, 2005:

1. Chestnut Avenue south of Cedar Avenue
2. Ellis Street east of Long Beach Boulevard
3. Daisy Avenue north of Del Amo Boulevard
4. Daisy Avenue south of Del Amo Boulevard
5. Oregon Avenue south of Del Amo Boulevard
6. Carson Street west of Via Alcalde Avenue

The existing daily volumes for each of the above local street segments are shown in Table 7.

The City of Long Beach examines potential street segment impacts on an individual project basis, and the impact criteria applied to evaluate these potential traffic impacts on street segments are based on the existing daily volumes and the projected level of increase that can be attributed to the project. For local streets, the criteria set forth by the City of Long Beach state that a local street would be significantly impacted with the addition of approximately 500 daily trips.

Based on the estimated 23 daily trips shown in Tables 5, the proposed project traffic volumes fall well below the threshold for street segment analysis. No further traffic analysis is therefore required, and the neighborhood impacts are considered to be less than significant.

## **REGIONAL/CMP ANALYSIS**

Additional analyses were conducted to comply with Los Angeles County Metropolitan Transportation Authority (MTA) Congestion Management Program (CMP) requirements. Potential impacts of the proposed project on the CMP freeway monitoring locations and CMP arterial intersection monitoring stations were evaluated in accordance with CMP Transportation Impact Analysis (TIA) requirements. The MTA CMP program states that a CMP freeway analysis must be conducted if 150 or more trips attributable to the proposed development are added to a mainline freeway monitoring location in either direction during the morning or afternoon peak hour. Similarly, a CMP arterial intersection analysis must be conducted if 50 or more peak hour project trips are added to a CMP arterial intersection.

Based on the project trip generation estimates shown in Tables 6, the proposed project traffic volumes fall well below the thresholds for CMP intersection and freeway analysis. No further traffic analysis on CMP mainline freeway monitoring locations or CMP arterial intersections is therefore required and CMP impacts are considered to be less than significant.

## **PARKING ANALYSIS**

The passive recreational uses that currently exist on the site and will be enhanced with the project function as passive parks. Because the project site is owned by the Los Angeles County Flood Control District, however, and the District is precluded from developing parks on its property, the code parking requirement is not directly applicable to the project. Nevertheless, for the purposes of the environmental analysis of the project, the project can be treated as a passive park to estimate the amount of parking that may be needed to serve the new and upgraded public access areas.

Relevant sections of the Los Angeles County Code (Section 22.52.1175) and the Long Beach Municipal Code (Section 21.41.216) were reviewed to determine the amount of parking that may be needed to serve the project. Both codes call for provision of two parking spaces per acre for parks such as the passive recreational uses on the project site that would be upgraded or expanded by the project. Because the project would provide 3.7 acres of upgraded foot trails and 0.8 acres of new foot trails (a total of 4.5 acres), the project could generate a demand for up to nine parking spaces.

The actual demand for parking at the site could be less than the code requirement because some project-related trips, particularly those made by visitors under 16, would be made by non-automotive means. The public access component of the project is secondary to its intended function and it is anticipated that it would be primarily a local attraction patronized by local residents, many of whom could travel to the site by non-automotive means.

Because the project will not provide any new parking, a parking utilization survey was conducted on streets in the adjoining neighborhoods to determine their ability to accommodate the potential demand. The survey recorded the total number of unrestricted on-street parking spaces within approximately two blocks of the site and their level of utilization during eight-hour periods on a weekday (Thursday, April 7, 2005 from noon to 8:00 p.m.) and on a weekend day (Saturday, April 9, 2005 from noon to 8:00 p.m.). The surveyed streets were grouped into several sections, as shown in Figure 1. The results of this survey are discussed below and are presented in Table 8 and Tables E1 through E12 in Attachment E.

The total available on-street parking supply in the vicinity of the project site was observed to be 2,672 spaces. Of this total, approximately 901 lie within one block of public access points to the project.

Total weekday parking utilization in the vicinity, documented in Tables E1 through E6, was observed to vary from 712 spaces to 1,103 spaces during the survey hours. The peak demand occurred between 7:00 p.m. and 8:00 p.m., when the overall occupancy was 1,013 spaces (38% of all surveyed spaces). During that hour a total of 1,659 parking spaces were unoccupied in the vicinity of the project site, including more than 693 within approximately one block of public access points to the project site.

Observed weekend parking utilization in the vicinity, documented in Tables E7 through E12, was similar to weekday utilization. During the survey hours it was observed to vary from 954 spaces to 1,258 spaces. The peak demand occurred between 7:00 p.m. and 8:00 p.m., when the overall occupancy was 1,258 spaces (47% of all surveyed spaces). During that hour a total

of 1,424 parking spaces were unoccupied in the vicinity of the project site, including 615 within approximately one block of public access points to the project site.

Based on the parking utilization survey conducted for this study, there is more than sufficient parking capacity on the streets surrounding the project site to accommodate the estimated parking demand of nine spaces that cannot physically be provided on the site without impacting nearby residents.

## **SUMMARY AND CONCLUSIONS**

This study was undertaken to analyze the potential traffic impacts of the proposed project on the local street system. The following summarizes the results of this analysis:

- A total of five intersections were analyzed within the study area for this project. The intersections are all operating at LOS D or better, with the exception of Long Beach Boulevard & Market Street (LOS E, afternoon peak hour only).
- The proposed Project is located within the City of Long Beach and is comprised of the Dominguez Gap Spreading Grounds and the Market Street Basin. The Dominguez Gap Spreading Grounds consist of two basins along the Los Angeles River: the West Basin extends north from about I-405 to the Metro Blue Line; the East Basin extends from Del Amo Boulevard to the Metro Blue Line. The Market Street Basin consists of two segments: the southern segment lies between Del Amo Boulevard and Long Beach Boulevard; the northern segment lies between Long Beach Boulevard and DeForest Park. The overall site acreage is approximately 87 acres, including approximately 11.3 acres of usable recreational space. Of this area, 6.8 existing acres will be unaffected by the project, 3.7 acres will be upgraded, and 0.8 acres will be added. This results in a net total of 4.5 acres of new and upgraded usable recreational space.
- The project is estimated to generate approximately 23 daily trips, including three weekday morning peak hour trips, and two weekday afternoon peak hour trips.
- Under cumulative base conditions (2007 without the addition of project traffic), all study intersections are projected to operate at LOS D or better, with the exception of Long Beach Boulevard & Market Street (LOS E, afternoon peak hour only).
- Based on the significant impact criteria of the City of Long Beach, analysis of cumulative plus project conditions indicates that the proposed project would not have a significant impact at any of the intersections in the study area. The proposed project is expected to generate approximately 23 daily trips. Based on the significant impact criteria of the City of Long Beach, this amount of traffic would not have an impact on the local street system. CMP impacts generated by the project are considered to be less than significant.
- While the project is not a park, the amount of off-street parking that could be needed to serve the project is estimated to be nine spaces, based on the provision of approximately 4.5 acres of new and upgraded foot trails and the code requirement for parks of two spaces per acre that is found in both the Los Angeles County Code and the

Long Beach Municipal Code. Because the project would provide no off-street parking, an eight-hour, two-day parking utilization survey was conducted for a typical weekday (Thursday April 7, 2005) and a typical weekend day (Saturday April 9, 2005). This survey found that the amount of available on-street parking in the vicinity of public access points to the project site is more than adequate to accommodate the projected demand of up to nine parking spaces.

- Because no significant project-related traffic or parking impacts have been identified, no mitigation measures are required for the proposed project.



## **ATTACHMENT A**

### **FIGURES**

#### **NO.**

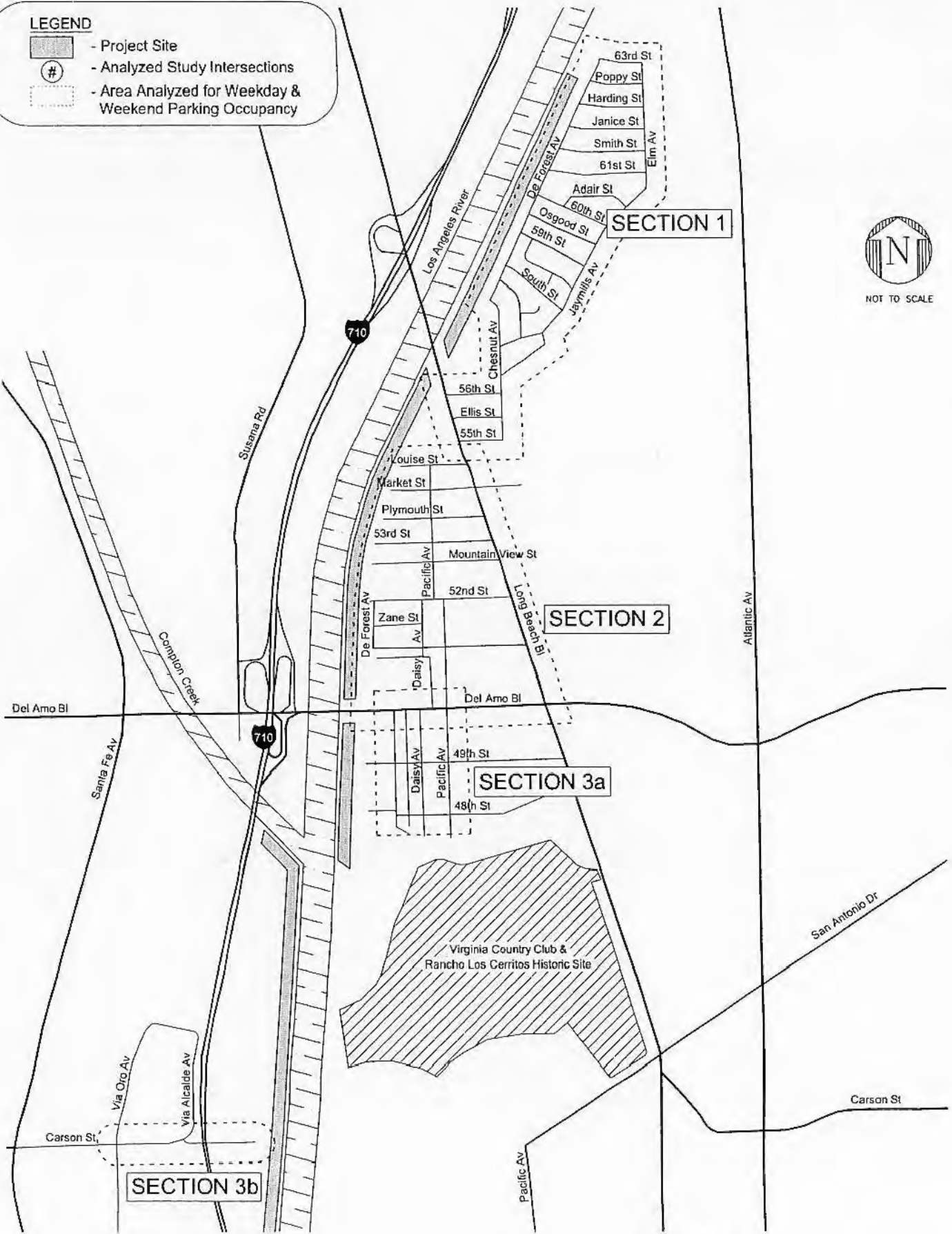
- 1 Project Location and Study Area
- 2 Existing Lane Configurations
- 3 Existing Peak Hour Traffic Volumes
- 4 Cumulative Base Peak Hour Traffic Volumes
- 5 Project Only Peak Hour Traffic Volumes
- 6 Cumulative Plus Project Peak Hour Traffic Volumes





# LEGEND

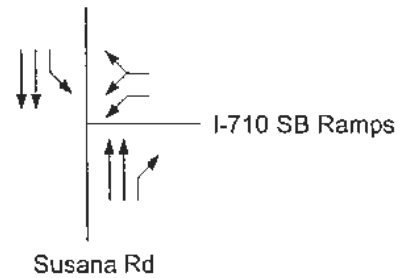
- Project Site
- Analyzed Study Intersections
- Area Analyzed for Weekday & Weekend Parking Occupancy



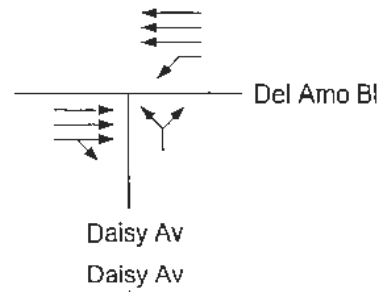
**KAKU ASSOCIATES**

FIGURE 1  
PROJECT LOCATION AND STUDY AREA

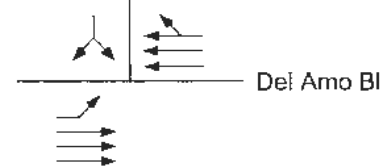
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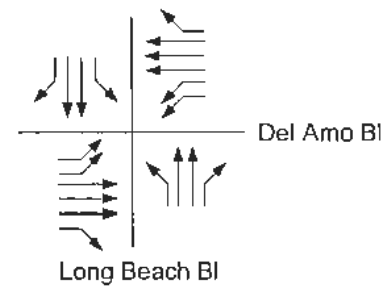
2. Daisy Av (south) & Del Amo Bl



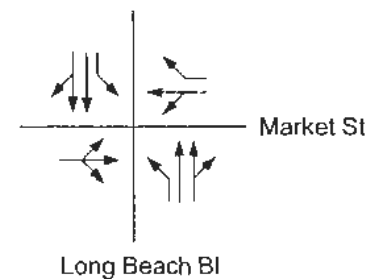
3. Daisy Av (north) & Del Amo Bl



4. Long Beach Bl & Del Amo Bl






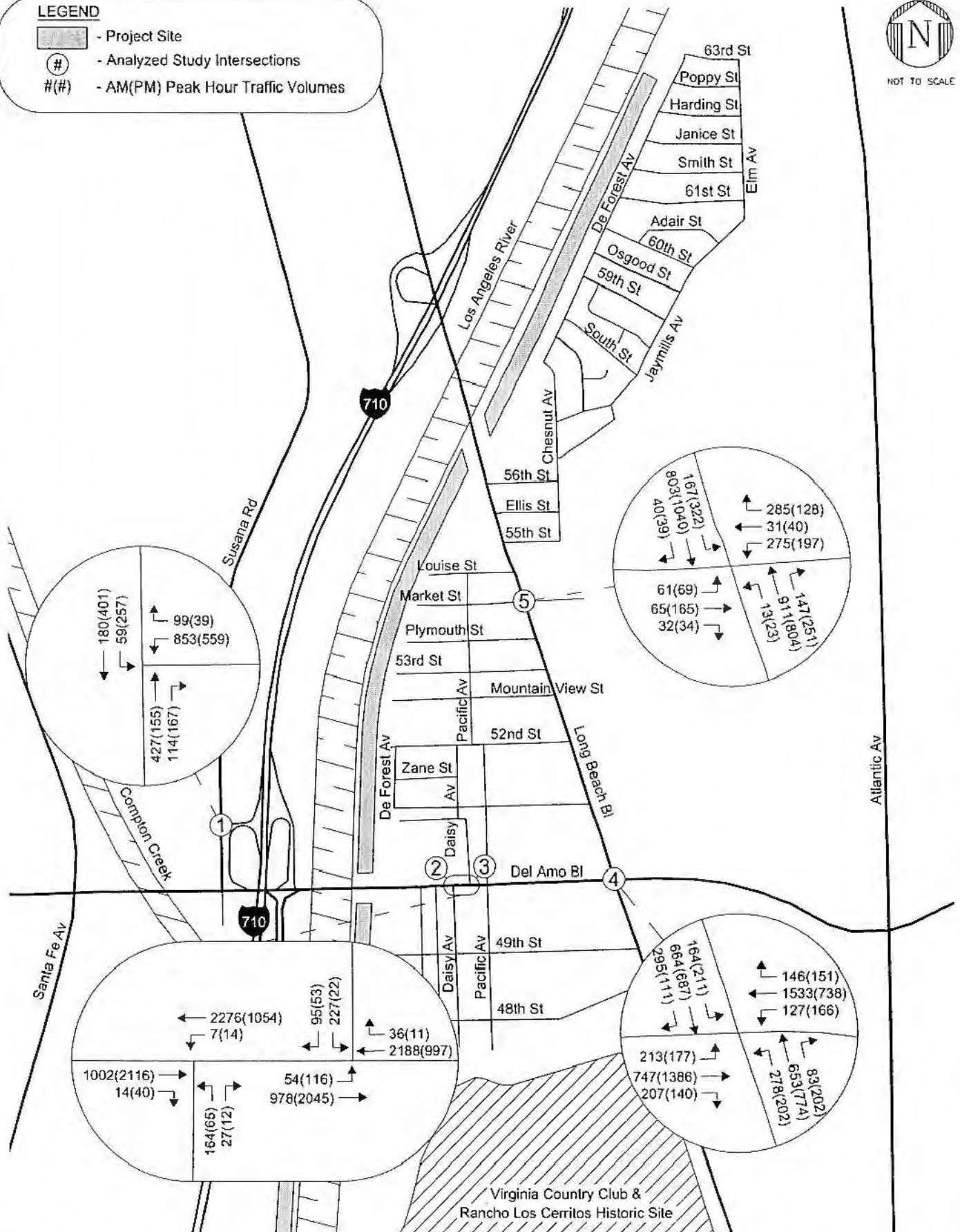
5. Long Beach Bl & Market St



**FIGURE 2**  
**EXISTING LANE CONFIGURATIONS**

# LEGEND





-  - Project Site
-  - Analyzed Study Intersections
-  - AM(PM) Peak Hour Traffic Volumes



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FIGURE 3  
EXISTING PEAK HOUR TRAFFIC VOLUMES

# LEGEND

-  - Project Site
-  - Analyzed Study Intersections
-  - AM(PM) Peak Hour Traffic Volumes
-  - Related Project Location

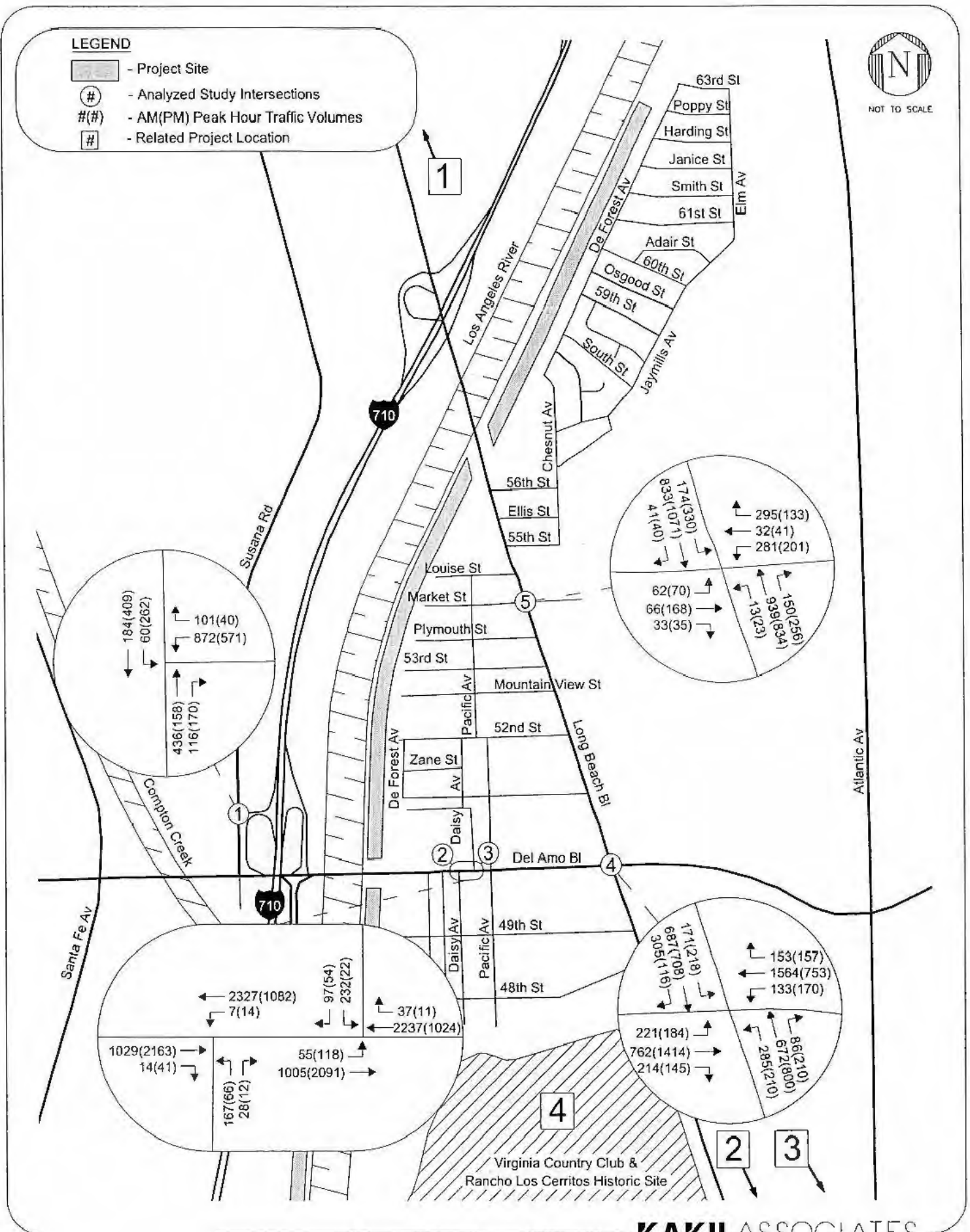





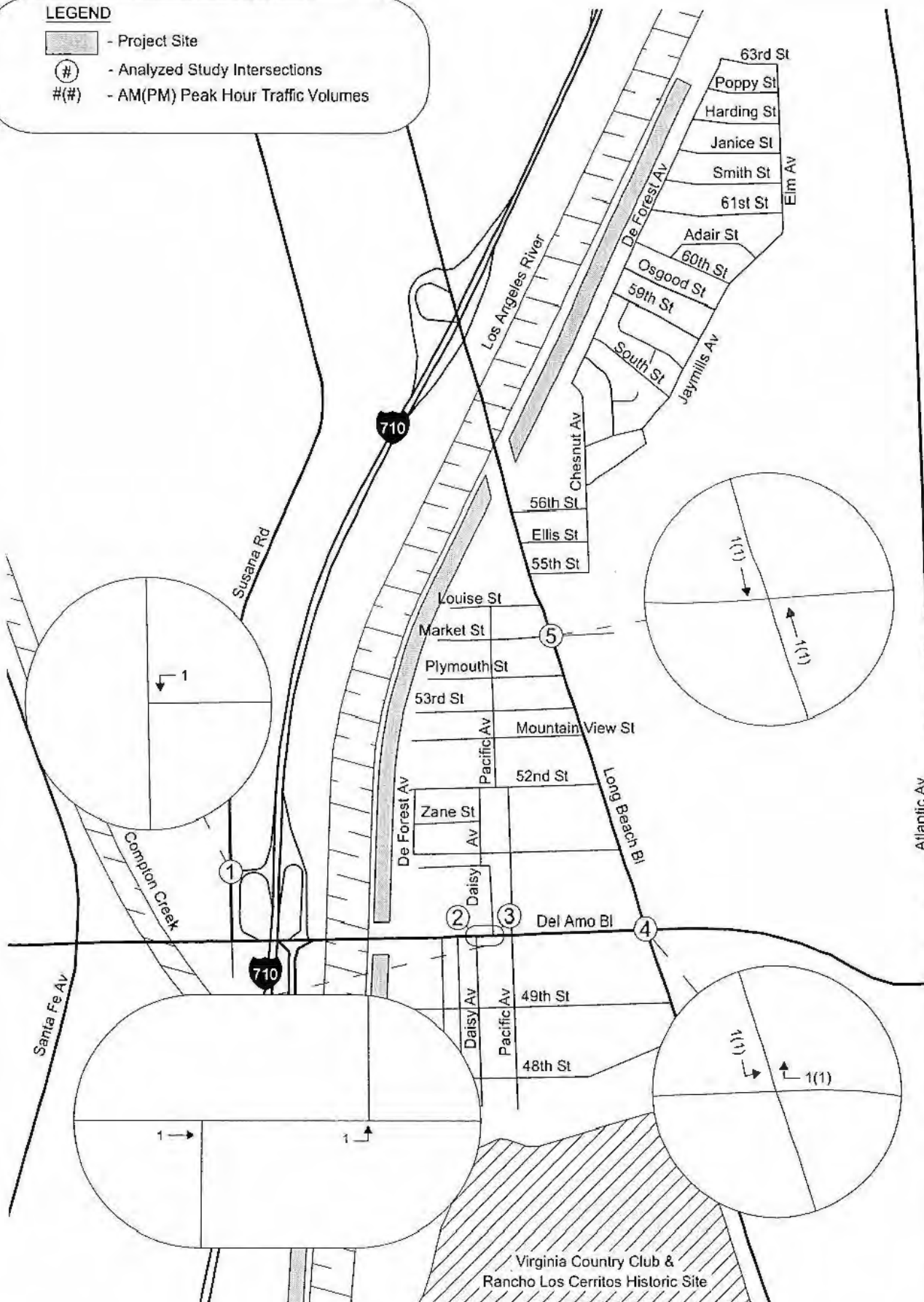
FIGURE 4

CUMULATIVE BASE PEAK HOUR TRAFFIC VOLUMES

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**LEGEND**




-  - Project Site
-  - Analyzed Study Intersections
-  - AM(PM) Peak Hour Traffic Volumes

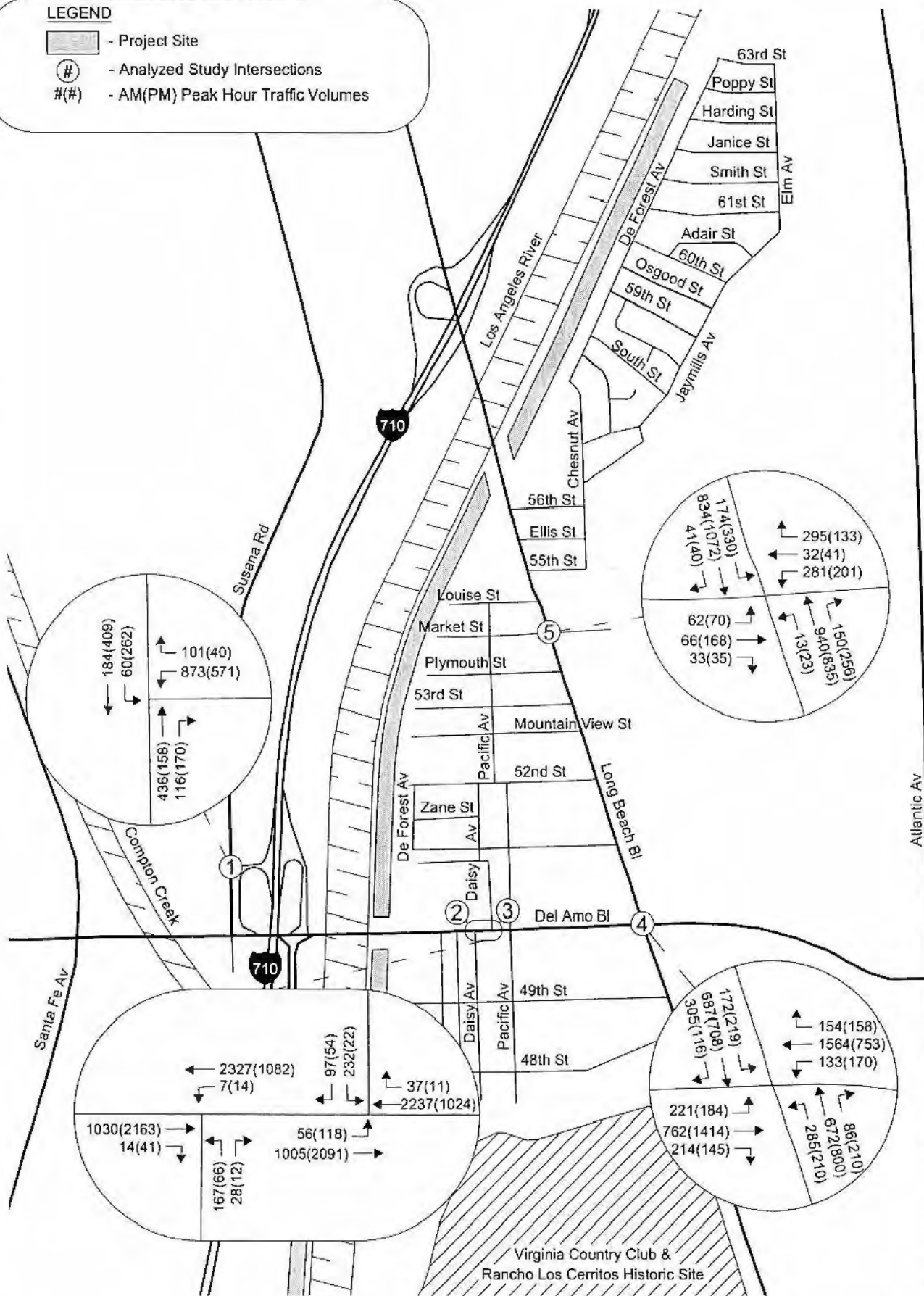


**KAKU ASSOCIATES**

**FIGURE 5**  
**PROJECT ONLY PEAK HOUR TRAFFIC VOLUMES**

# LEGEND

-  - Project Site
-  - Analyzed Study Intersections
-  - AM(PM) Peak Hour Traffic Volumes



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FIGURE 6  
CUMULATIVE PLUS PROJECT PEAK HOUR TRAFFIC VOLUMES

## **ATTACHMENT B**

### **TABLES**

#### **NO.**

- 1 Existing Surface Street Characteristics
- 2 Level of Service Definitions for Signalized Intersections
- 3 Intersection Level of Service Analysis – Existing Conditions
- 4 Related Project Trip Generation Estimates
- 5 Future Intersection Level of Service Analysis
- 6 Proposed Project Trip Generation Estimates
- 7 Existing Average Daily Traffic (ADT) Volumes
- 8 Summary of Weekday and Weekend Parking Utilization





**TABLE 1**  
**EXISTING SURFACE STREET CHARACTERISTICS**

SEGMENT	FROM	TO	LANE		MEDIAN TYPE	PARKING RESTRICTIONS		SPEED LIMIT
			NB/EB	SB/WB		NB/EB	SB/WB	
Long Beach Bl	Arbor St/48th St	49th St	2	2	2LT	PA	PA	30
	49th St	Pleasant St	2	2	2LT	PA/NSAT	NSAT	30
	Pleasant St	Del Amo Bl	2	2	DY	NSAT	NSAT	30
	Del Amo Bl	Home St	2	2	DY	NSAT/2hr 9a-6p	NSAT/2hr 9a-6p	30
	Home St	Sunset St	2	2	2LT	2hr 9a-6p	2hr 9a-6p	30
	Sunset St	Morningside St	2	2	2LT	NSAT	2hr 9a-6p	30
	Morningside St	52nd St	2	2	DY	NSAT	2hr 9a-6p	30
	52nd St	Platt St	2	2	2LT	2hr 9a-6p	2hr 9a-6p	30
	Platt St	Mountain View St	2	2	DY	2hr 9a-6p	2hr 9a-6p	30
	Mountain View St	53rd St	2	2	DY	2hr 9a-6p	PA	30
	53rd St	Plymouth St	2	2	DY	2hr 9a-6p	2hr 9a-6p	30
	Plymouth St	Market St	2	2	DY	PA	2hr 9a-6p	30
	Market St	55th St	2	2	DY	2hr 9a-6p	2hr 9a-6p	30
	55th St	Ellis St	2	2	2LT	2hr 9a-6p	NSAT	30
	Ellis St	56th St	2	2	DY	NSAT	2hr 9a-6p	30
	56th St	710 fwy	2	3	RM	NSAT	NSAT	35
Del Amo Bl	710 fwy	Oregon Av	3	3	RM	NSAT	NSAT	40
	Oregon Av	Daisy Av	3	3	RM	PA	NSAT	40
	Daisy Av	Pacific Av	3	3	RM	NSAT	PA	40
	Pacific Av	Locust Av	3	3	RM	PA	PA	40
Market St	Dead End	Alley	1	1	SDY	PA	PA	30
	Alley	Long Beach Bl	1	1	SDY	2hr 9a-6p	2hr 9a-6p	30
	Long Beach Bl	Cedar Av	1	1	2LT	PA	PA	30
Deforest Av	63rd St	Chestnut Av	1	1	UD	PA	PA	25
Chestnut Av	Deforest	Jaymills Av	1	1	UD	PA	PA	25
	Jaymills Av	Ellis St	1	1	UD	NSAT	PA	25
Ellis St	Long Beach Bl	Chestnut Av	1	1	UD	PA	PA	25
Pacific Av	Louise St	52nd St	1	1	UD	PA	PA	25
Daisy Av	52nd St	51st St	1	1	UD	PA	PA	25
	51st St	Home St	1	1	UD	NSAT	PA	25
	Home St	Del Amo Bl	1	1	UD	PA	PA	25
	Del Amo Bl	End	1	1	UD	PA	PA	25
Oregon Av	Del Amo Bl	49th St	1	1	UD	PA	PA	25
	49th St	48th St	1	1	UD	NSAT	PA	25
	48th St	End	1	1	UD	PA	PA	25
Carson St	Via Oro Av	End	1	1	UD	NSAT	NSAT	25

**Notes:**

MEDIAN TYPE: DY = Double Yellow Centerline  
SDY = Single Dashed Yellow Centerline  
2LT = Dual Left Turn Centerline  
RM = Raised Median

PARKING: PA = Parking Allowed  
NSAT = No Stopping Anytime  
LANES: # = Number of lanes

**TABLE 2**  
**LEVEL OF SERVICE DEFINITIONS FOR SIGNALIZED INTERSECTIONS**

Level of Ser-vice	Volume/Capacity Ratio	Definition
A	0.000 - 0.600	EXCELLENT. No vehicle waits longer than one red light and no approach phase is fully used.
B	0.601 - 0.700	VERY GOOD. An occasional approach phase is fully utilized; many drivers begin to feel some-what restricted within groups of vehicles.
C	0.701 - 0.800	GOOD. Occasionally drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
D	0.801 - 0.900	FAIR. Delays may be substantial during por-tions of the rush hours, but enough lower vol-ume peri-ods occur to permit clearing of devel-oping lines, preventing excessive backups.
E	0.901 - 1.000	POOR. Represents the most vehicles intersection approaches can accommodate; may be long lines of waiting vehicles through several cycles.
F	>1.000	FAILURE. Backups from nearby locations or on cross streets may restrict or prevent movement of vehicles out of the intersection approaches. Tre-mendous delays with continuously increasing queue lengths.

Source: Transportation Research Board, Highway Capacity Manual, Special Reoprt 209, 1994

**TABLE 3**  
**INTERSECTION LEVEL OF SERVICE ANALYSIS**  
**EXISTING CONDITIONS**

Intersections	Peak Hour	Existing Conditions	
		V/C	LOS
1. Susana Rd & I-710 Southbound Ramps	AM	0.601	B
	PM	0.517	A
2. Daisy Av-South & Del Amo Bl	AM	0.693	B
	PM	0.606	B
3. Daisy Av-North & Del Amo Bl	AM	0.739	C
	PM	0.540	A
4. Long Beach Bl & Del Amo Bl	AM	0.875	D
	PM	0.821	D
5. Long Beach Bl & Market St	AM	0.806	D
	PM	0.922	E

**TABLE 4**  
**RELATED PROJECT TRIP GENERATION ESTIMATES**

LAND USE [1]	LOCATION	SIZE [2]	DAILY	AM Peak Hour Trips			PM Peak Hour Trips		
				IN	OUT	TOTAL	IN	OUT	TOTAL
1. Fast Food Restaurant	6145 Long Beach Boulevard	3 ksf	1,488	81	78	159	54	50	104
2. Medical Office Building	3932 Long Beach Boulevard	7 ksf	253	14	4	17	7	19	26
3. Medical Office Building	3918 Long Beach Boulevard	19.1 ksf	692	37	10	47	19	52	71
4. Rancho Los Ceritos Museum Center	4600 Virginia Road	3.2 ksf	73	2	2	5	3	2	5
<b>Total</b>			2,506	135	94	229	83	123	206

[1] Source: City of Long Beach Major Projects List (March 1, 2005)

[2] KSF = thousand square feet

**TABLE 5**  
**FUTURE INTERSECTION LEVEL OF SERVICE ANALYSIS**

Intersections	Peak Hour	Cumbase Year 2007		Cumbase Plus Project Year 2007		Impact	
		V/C	LOS	V/C	LOS	Change in V/C	Signif. Impact
1. Susana Rd & I-710 Ramps	AM	0.612	B	0.612	B	0.000	NO
	PM	0.525	A	0.525	A	0.000	NO
2. Daisy Av-South & Del Amo Bl	AM	0.707	C	0.707	C	0.000	NO
	PM	0.617	B	0.617	B	0.000	NO
3. Daisy Av-North & Del Amo Bl	AM	0.753	C	0.754	C	0.001	NO
	PM	0.550	A	0.550	A	0.000	NO
4. Long Beach Bl & Del Amo Bl	AM	0.896	D	0.896	D	0.000	NO
	PM	0.840	D	0.841	D	0.001	NO
5. Long Beach Bl & Market St	AM	0.825	D	0.826	D	0.001	NO
	PM	0.945	E	0.945	E	0.000	NO

Note:

[a] Mitigation not necessary.

[b] Significant project impact based on City of Long Beach significance criteria.

**TABLE 6**  
**PROPOSED PROJECT TRIP GENERATION ESTIMATES**

Land use	Size	Trip Generation						
		Daily Trips	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
<b>Trip Generation Rates</b> Neighborhood/County (Undeveloped) [1] (Trips per acre)		5.00	50%	50%	2.00	50%	50%	4.00
<b>Proposed Project</b> Dominguez Gap/Market Street Basing	4.5 acres	23	2	1	3	1	1	2

**Notes:**

[1] Trip generation rate from *Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region*, SANDAG, April 2002.

**TABLE 7**  
**EXISTING AVERAGE DAILY TRAFFIC (ADT) VOLUMES**

Location	Street Classification	Existing ADT
Chestnut Avenue south of Cedar Avenue	Local	1,112
Ellis Street east of Long Beach Boulevard	Local	1,724
Daisy Avenue north of Del Amo Boulevard	Local	2,190
Daisy Avenue south of Del Amo Boulevard	Local	1,363
Oregon Avenue south of Del Amo Boulevard	Local	1,572
Carson Street west of Via Alcalde Avenue	Local	1,554





**Table 8: Summary of Weekday and Weekend Parking Utilization**

WEEKDAY - THURSDAY, APRIL 7, 2005								
Location:	Occupancy							
	12:00 to 1:00	1:00 to 2:00	2:00 to 3:00	3:00 to 4:00	4:00 to 5:00	5:00 to 6:00	6:00 to 7:00	7:00 to 8:00
Section 1 (1,607 total spaces)								
Percentage of spaces occupied:	17%	16%	17%	17%	19%	19%	22%	26%
Total spaces occupied:	278	265	268	274	301	311	356	425
Section 2 (722 total spaces)								
Percentage of spaces occupied:	43%	48%	50%	43%	45%	49%	53%	57%
Total spaces occupied:	307	346	359	313	326	357	384	408
Section 3 (343 total spaces)								
Percentage of spaces occupied:	37%	40%	38%	41%	45%	50%	51%	52%
Total spaces occupied:	127	138	131	139	156	170	174	180
Total (2,672 spaces)								
Percentage of spaces occupied:	27%	28%	28%	27%	29%	31%	34%	38%
Total spaces occupied:	712	749	758	726	783	838	914	1,013
WEEKEND - SATURDAY, APRIL 9, 2005								
Location:	Occupancy							
	12:00 to 1:00	1:00 to 2:00	2:00 to 3:00	3:00 to 4:00	4:00 to 5:00	5:00 to 6:00	6:00 to 7:00	7:00 to 8:00
Section 1 (1,607 total spaces)								
Percentage of spaces occupied:	24%	24%	25%	25%	29%	31%	33%	35%
Total spaces occupied:	388	391	400	406	469	502	528	565
Section 2 (722 total spaces)								
Percentage of spaces occupied:	53%	52%	53%	55%	57%	57%	61%	62%
Total spaces occupied:	380	376	381	400	414	412	441	449
Section 3 (343 total spaces)								
Percentage of spaces occupied:	54%	56%	57%	64%	64%	64%	67%	71%
Total spaces occupied:	186	193	197	218	220	219	230	244
Total (2,672 spaces)								
Percentage of spaces occupied:	36%	36%	37%	38%	41%	42%	45%	47%
Total spaces occupied:	954	960	978	1,024	1,103	1,133	1,199	1,258

Note: See Figure 2 for location of streets analyzed and for locations of Sections 1, 2 and 3



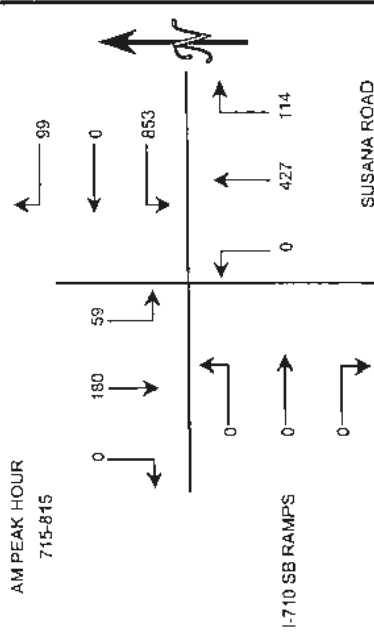
**ATTACHMENT C**  
**TRAFFIC COUNT DATA**



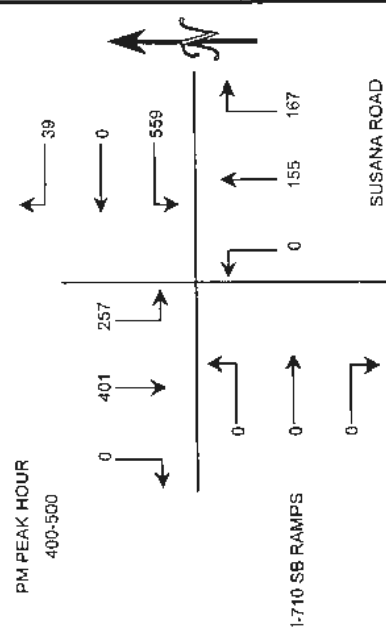
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: LONG BEACH COUNTS  
 DATE: THURSDAY, APRIL 7TH, 2005  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S SUSANA ROAD AND E/W I-710 SB RAMPS

15 MIN COUNTS											
7:00 AM TO 9:00 AM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH
700-715	0	34	23	28	0	203	35	81	0	0	0
715-730	0	40	18	35	0	200	24	113	0	0	0
730-745	0	53	13	15	0	208	25	117	0	0	0
745-800	0	51	10	29	0	213	41	98	0	0	0
800-815	0	36	18	20	0	232	24	99	0	0	0
815-830	0	29	13	19	0	209	28	95	0	0	0
830-845	0	29	17	17	0	175	30	73	0	0	0
845-900	0	31	20	26	0	143	33	59	0	0	0
TOTAL											
700-900	0	178	64	107	0	824	125	409	0	0	0
715-815	0	180	59	99	0	853	114	427	0	0	0
730-830	0	169	54	83	0	862	118	409	0	0	0
745-845	0	145	58	85	0	829	123	365	0	0	0
800-900	0	125	68	82	0	759	115	326	0	0	0



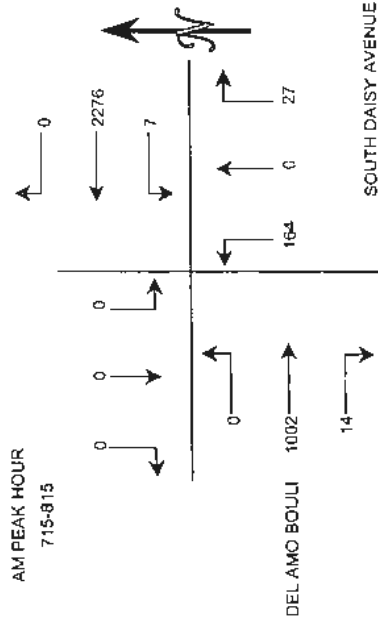
15 MIN COUNTS											
4:00 PM TO 6:00 PM											
PERIOD	1	2	3	4	5	6	7	8	9	10	11
	SBRT	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH
400-415	0	132	75	13	0	137	42	38	0	0	0
415-430	0	87	45	10	0	132	48	36	0	0	0
430-445	0	126	83	6	0	151	44	47	0	0	0
445-500	0	56	53	10	0	139	33	34	0	0	0
500-515	0	90	76	7	0	122	46	50	0	0	0
515-530	0	67	68	4	0	114	34	35	0	0	0
530-545	0	43	37	2	0	141	41	27	0	0	0
545-600	0	58	44	6	0	141	52	30	0	0	0
TOTAL											
400-500	0	401	257	39	0	559	167	155	0	0	0
415-515	0	359	258	33	0	544	171	167	0	0	0
430-530	0	339	281	27	0	526	157	166	0	0	0
445-545	0	256	235	23	0	516	154	146	0	0	0
500-600	0	258	225	19	0	518	173	142	0	0	0



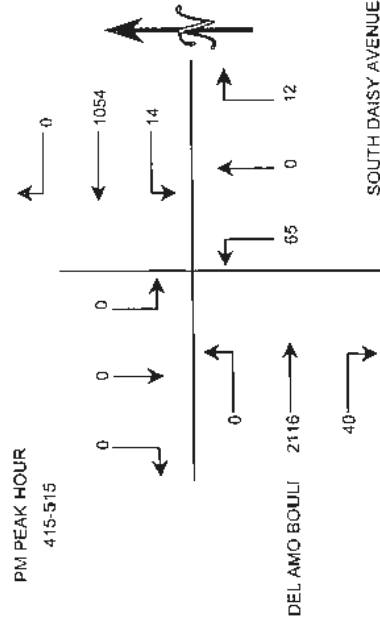
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: LONG BEACH COUNTS  
 DATE: THURSDAY, APRIL 7TH, 2005  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S SOUTH DAISY AVENUE  
 E/W DEL AMO BOULEVARD

15 MIN COUNTS												
7:00 AM TO 9:00 AM												
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
	TOTAL											
700-715	0	0	0	0	506	0	2	0	24	0	201	0
715-730	0	0	0	0	568	0	3	0	30	0	240	0
730-745	0	0	0	0	560	0	10	0	39	0	267	0
745-800	0	0	0	0	591	4	7	0	52	0	247	0
800-815	0	0	0	0	517	3	7	0	43	14	248	0
815-830	0	0	0	0	475	0	8	0	22	3	235	0
830-845	0	0	0	0	368	1	1	0	18	4	190	0
845-900	0	0	0	0	285	0	3	0	23	4	192	0
HOUR TOTALS												
TIME	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
	TOTAL											
700-800	0	0	0	0	2265	4	22	0	145	0	955	0
715-815	0	0	0	0	2276	7	27	0	164	14	1002	0
730-830	0	0	0	0	2163	7	32	0	156	17	997	0
745-845	0	0	0	0	1951	8	23	0	135	21	920	0
800-900	0	0	0	0	1645	4	19	0	106	25	865	0



15 MIN COUNTS												
4:00 PM TO 6:00 PM												
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
	TOTAL											
400-415	0	0	0	0	269	0	0	0	13	7	563	0
415-430	0	0	0	0	285	5	0	0	16	13	553	0
430-445	0	0	0	0	250	4	3	0	17	8	508	0
445-500	0	0	0	0	233	4	1	0	11	7	517	0
500-515	0	0	0	0	286	1	8	0	21	12	538	0
515-530	0	0	0	0	260	1	3	0	18	9	477	0
530-545	0	0	0	0	280	2	1	0	23	10	505	0
545-600	0	0	0	0	267	1	3	0	15	7	482	0
HOUR TOTALS												
TIME	1	2	3	4	5	6	7	8	9	10	11	12
	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
	TOTAL											
400-500	0	0	0	0	1037	13	4	0	57	35	2141	0
415-515	0	0	0	0	1054	14	12	0	65	40	2116	0
430-530	0	0	0	0	1049	10	15	0	67	36	2040	0
445-545	0	0	0	0	1079	8	13	0	73	38	2037	0
500-600	0	0	0	0	1113	5	15	0	77	38	2002	0



## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: LONG BEACH COUNTS  
 DATE: THURSDAY, APRIL 7TH, 2005  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S NORTH DAISY AVENUE  
 E/W DEL AMO BOULEVARD

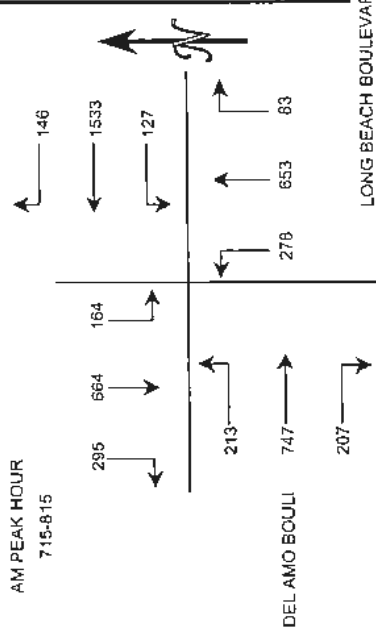
7:00 AM TO 9:00 AM													
15 MIN COUNTS													
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
	SBRT	SBTH	SBLT	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH	EBTL	
700-715	23	0	13	5	495	0	0	0	0	0	187	13	737
715-730	27	0	25	10	565	0	0	0	0	0	227	16	870
730-745	35	0	61	9	530	0	0	0	0	0	274	13	922
745-800	19	0	95	12	579	0	0	0	0	0	231	15	951
800-815	14	0	46	5	514	0	0	0	0	0	246	10	835
815-830	8	0	11	5	471	0	0	0	0	0	237	7	739
830-845	7	0	3	2	352	0	0	0	0	0	185	3	552
845-900	9	0	0	1	281	0	0	0	0	0	192	4	487
HOUR TOTALS													
TIME	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
	SBRT	SBTH	SBLT	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH	EBTL	
700-800	104	0	194	36	2170	0	0	0	0	0	919	57	3480
715-815	95	0	227	36	2188	0	0	0	0	0	978	54	3578
730-830	76	0	213	31	2094	0	0	0	0	0	988	45	3447
745-845	48	0	155	24	1916	0	0	0	0	0	899	35	3077
800-900	38	0	60	13	1618	0	0	0	0	0	860	24	2613

AM PEAK HOUR 715-815											
DEL AMO BOULI											
978											
0											
NORTH DAISY AVENUE											

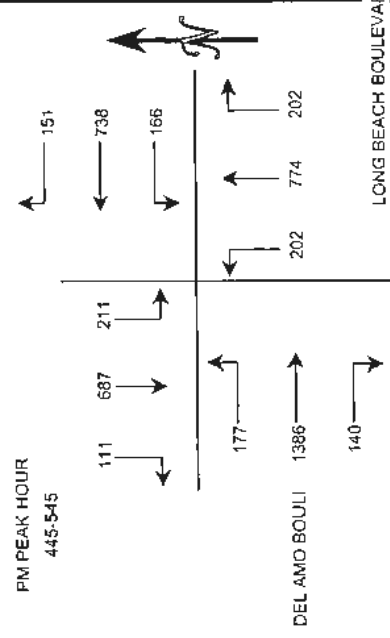
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: LONG BEACH COUNTS  
 DATE: THURSDAY, APRIL 7TH, 2005  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S LONG BEACH BOULEVARD  
 E/W DEL AMO BOULEVARD

7:00 AM TO 9:00 AM											
PERIOD	1	2	3	4	5	6	7	8	9	10	TOTAL
700-745	55	123	33	33	362	24	8	112	66	25	998
745-790	67	142	32	48	388	19	19	155	74	34	1205
790-835	87	151	46	27	388	30	28	179	87	56	1342
835-880	90	185	51	38	391	41	16	151	66	63	1348
880-915	51	186	35	32	366	37	20	168	51	54	1215
915-930	38	188	26	33	335	46	21	129	74	44	1105
930-945	38	122	30	28	246	33	22	116	52	44	871
945-960	23	136	31	25	207	28	15	100	46	46	807
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	TOTAL
700-800	299	601	162	147	1529	114	71	597	293	178	4893
800-900	295	664	164	146	1533	127	83	653	278	207	5110
900-1000	266	690	158	130	1480	154	85	627	278	217	5010
1000-1100	217	661	142	131	1338	157	79	564	243	205	4539
1100-1200	150	612	122	119	1154	145	78	513	223	188	3999



4:00 PM TO 6:00 PM											
PERIOD	1	2	3	4	5	6	7	8	9	10	TOTAL
400-415	39	164	57	42	169	37	32	178	43	39	1185
415-430	31	185	47	32	179	31	41	164	43	46	1205
430-445	31	176	44	36	167	37	44	163	46	33	1202
445-500	25	183	51	39	149	40	50	173	48	39	1200
500-515	29	162	63	33	183	50	47	204	67	36	1255
515-530	29	167	55	34	199	45	47	206	46	26	1214
530-545	28	175	42	45	207	31	58	191	41	39	1276
545-600	37	161	55	41	164	46	39	175	52	22	1186
HOUR TOTALS											
TIME	1	2	3	4	5	6	7	8	9	10	TOTAL
400-500	126	708	198	151	664	145	167	668	180	157	4792
500-600	116	706	205	142	678	158	182	694	204	154	4862
600-700	114	688	213	144	698	172	188	746	207	134	4871
700-800	111	687	211	151	738	166	202	774	202	140	4945
800-900	123	665	215	153	753	172	191	776	206	123	4931

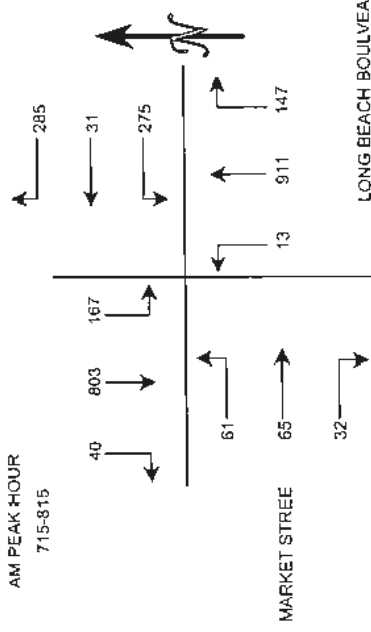




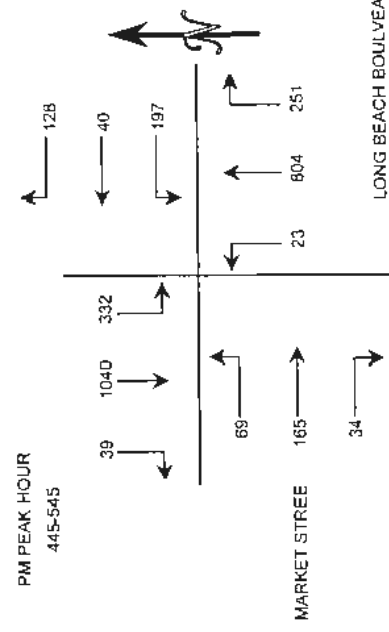
## INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: LONG BEACH COUNTS  
 DATE: THURSDAY, APRIL 7TH, 2005  
 PERIODS: 7:00 AM TO 9:00 AM AND 4:00 PM TO 6:00 PM  
 INTERSECTION: N/S LONG BEACH BOULVEARD  
 E/W MARKET STREET

15 MIN COUNTS												
7:00 AM TO 9:00 AM												
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12
SBRT	SBTH	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH	EBTL
TOTAL												
700-715	7	132	25	58	6	61	20	181	3	5	4	14
715-730	9	182	26	71	6	60	26	214	4	6	13	15
730-745	15	193	45	72	4	63	43	251	5	11	16	25
745-800	9	236	62	84	14	78	42	221	3	8	24	12
800-815	7	192	34	58	7	74	36	225	1	7	12	9
815-830	3	190	31	41	9	25	40	182	7	3	6	7
830-845	6	143	20	45	4	32	25	130	3	2	9	9
845-900	7	132	23	45	7	35	38	133	7	5	11	12
TOTALS												
TIME	1	2	3	4	5	6	7	8	9	10	11	12
700-800	40	743	158	285	30	262	131	867	15	30	57	66
715-815	40	803	167	285	31	275	147	911	13	32	65	61
730-830	34	811	172	255	34	240	161	879	16	29	58	53
745-845	25	761	147	228	34	209	143	758	14	20	51	37
800-900	23	657	108	189	27	165	139	670	18	17	38	37



15 MIN COUNTS												
4:00 PM TO 6:00 PM												
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12
SBRT	SBTH	SBTH	SBTL	WBRT	WBTH	WBTL	NBRT	NBTH	NBLT	EBRT	EBTH	EBTL
TOTAL												
400-415	14	249	95	44	10	52	54	209	6	3	37	19
415-430	17	242	85	42	6	48	63	182	6	11	34	20
430-445	10	250	95	31	9	40	62	187	7	3	30	17
445-500	9	273	78	32	7	49	68	208	4	9	48	14
500-515	16	259	88	31	8	45	56	188	6	10	33	21
515-530	8	248	93	27	11	47	73	220	9	11	39	21
530-545	6	260	73	38	14	56	54	188	4	4	45	13
545-600	16	246	68	29	7	52	73	221	6	10	32	23
TOTALS												
TIME	1	2	3	4	5	6	7	8	9	10	11	12
400-500	50	1014	353	149	32	189	247	786	23	26	149	70
415-515	52	1024	346	136	30	182	249	765	23	33	145	72
430-530	43	1030	354	121	35	181	259	803	26	33	150	73
445-545	39	1040	332	128	40	197	251	804	23	34	165	69
500-600	46	1013	322	125	40	200	256	817	25	35	149	76



## 24-HOUR ADT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: LONG BEACH  
 LOCATION: CHESTNUT AVENUE SOUTH OF CEDAR AVENUE  
 DATE: THURSDAY APRIL 7, 2005

DIRECTION:		NB				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS	
0:00	1	3	1	0	5	
1:00	0	0	1	0	1	
2:00	0	0	0	0	0	
3:00	0	0	0	0	0	
4:00	1	2	0	1	4	
5:00	2	2	3	6	13	
6:00	2	0	8	11	21	
7:00	8	8	6	6	28	
8:00	5	5	7	4	21	
9:00	4	4	3	3	14	
10:00	9	5	7	11	32	
11:00	2	11	8	10	31	
12:00	6	5	5	9	25	
13:00	6	6	9	14	35	
14:00	14	8	7	9	38	
15:00	3	6	15	15	39	
16:00	8	7	7	20	42	
17:00	20	14	14	8	56	
18:00	5	9	10	8	32	
19:00	6	15	6	8	35	
20:00	14	8	8	8	38	
21:00	5	6	4	4	19	
22:00	5	2	4	1	12	
23:00	0	0	6	0	6	
TOTAL					547	
AM PEAK HOUR		0630-0730				
VOLUME		35				
PM PEAK HOUR		1645-1745				
VOLUME		68				

DIRECTION:		SB				
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS	
0:00	2	1	2	0	5	
1:00	0	1	0	0	1	
2:00	1	0	0	0	1	
3:00	0	1	1	3	5	
4:00	4	3	6	9	22	
5:00	4	4	3	12	23	
6:00	9	12	18	14	53	
7:00	18	7	15	15	55	
8:00	2	2	5	4	13	
9:00	14	14	5	5	38	
10:00	6	2	8	6	22	
11:00	3	5	14	4	26	
12:00	5	7	7	6	25	
13:00	14	9	4	8	35	
14:00	10	11	14	13	48	
15:00	15	11	14	2	42	
16:00	15	6	1	2	24	
17:00	6	10	9	6	31	
18:00	7	8	8	3	26	
19:00	3	3	9	5	20	
20:00	8	8	3	3	22	
21:00	3	5	3	4	15	
22:00	3	2	2	2	9	
23:00	1	0	1	2	4	
TOTAL					565	
AM PEAK HOUR		0615-0715				
VOLUME		62				
PM PEAK HOUR		1415-1515				
VOLUME		53				

TOTAL BI-DIRECTIONAL VOLUME

1112

# WILTEC

Phone: (626) 564-1944

Fax: (626) 564-0969

## 24-HOUR ADT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: LONG BEACH  
 LOCATION: ELLIS STREET EAST OF  
 LONG BEACH BOULEVARD  
 DATE: THURSDAY APRIL 7, 2005

DIRECTION:		EB			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	1	1	0	0	2
1:00	0	0	1	0	1
2:00	0	0	0	0	0
3:00	2	0	0	0	2
4:00	0	0	0	0	0
5:00	0	0	3	4	7
6:00	0	5	4	6	15
7:00	6	1	0	1	8
8:00	4	10	6	2	22
9:00	3	4	5	5	17
10:00	5	3	6	6	20
11:00	10	6	4	2	22
12:00	2	6	3	2	13
13:00	5	4	10	8	27
14:00	7	6	8	10	31
15:00	8	11	28	4	51
16:00	4	6	9	19	38
17:00	11	12	14	14	51
18:00	14	8	8	6	36
19:00	6	9	6	4	25
20:00	4	3	4	4	15
21:00	3	4	6	5	18
22:00	2	2	4	1	9
23:00	1	0	2	0	3
TOTAL					433
AM PEAK HOUR		1030-1130			
VOLUME		28			
PM PEAK HOUR		1445-1545			
VOLUME		57			

DIRECTION:		WB			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	3	0	1	1	5
1:00	3	0	1	1	5
2:00	2	1	3	3	9
3:00	1	2	5	3	11
4:00	8	9	14	10	41
5:00	15	14	18	36	83
6:00	22	36	66	52	176
7:00	36	13	16	9	74
8:00	12	2	20	14	48
9:00	14	12	11	14	51
10:00	9	15	19	16	59
11:00	22	19	11	20	72
12:00	16	12	22	16	66
13:00	13	20	16	14	63
14:00	28	22	18	15	83
15:00	28	20	22	28	98
16:00	22	18	20	18	78
17:00	18	14	16	19	67
18:00	15	16	12	12	55
19:00	14	16	15	10	55
20:00	14	14	14	7	49
21:00	12	8	4	3	27
22:00	2	4	4	3	13
23:00	1	0	2	0	3
TOTAL					1291
AM PEAK HOUR		0615-0715			
VOLUME		190			
PM PEAK HOUR		1500-1600			
VOLUME		98			

TOTAL BI-DIRECTIONAL VOLUME

1724

## 24-HOUR ADT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: LONG BEACH  
 LOCATION: DAISY AVENUE NORTH OF  
 DEL AMO BOULEVARD  
 DATE: TUESDAY APRIL 12, 2005

DIRECTION:		NB			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	2	2	2	2	8
1:00	1	0	2	1	4
2:00	0	0	0	0	0
3:00	0	1	0	1	2
4:00	0	2	0	2	4
5:00	2	0	2	0	4
6:00	3	5	4	4	16
7:00	18	23	22	32	95
8:00	14	5	15	5	39
9:00	6	5	8	2	21
10:00	14	11	10	5	40
11:00	11	15	8	7	41
12:00	5	8	6	6	25
13:00	8	16	19	24	67
14:00	22	34	22	20	98
15:00	14	8	20	22	64
16:00	20	22	20	23	85
17:00	30	44	34	24	132
18:00	14	14	6	16	50
19:00	8	11	10	14	43
20:00	4	8	3	3	18
21:00	14	5	5	2	26
22:00	4	3	4	1	12
23:00	4	2	1	2	9
				TOTAL	903
AM PEAK HOUR		0700-0800			
VOLUME		95			
PM PEAK HOUR		1700-1800			
VOLUME		132			

DIRECTION:		SB			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	0	0	0	0	0
1:00	0	1	1	1	3
2:00	0	0	1	0	1
3:00	0	1	0	2	3
4:00	0	2	4	4	10
5:00	2	3	5	9	19
6:00	5	15	15	36	71
7:00	56	100	116	45	317
8:00	18	14	14	20	66
9:00	8	8	15	15	46
10:00	14	14	10	14	52
11:00	20	9	7	10	46
12:00	9	10	14	14	47
13:00	15	14	19	21	69
14:00	41	63	48	42	194
15:00	22	28	20	28	98
16:00	12	16	11	14	53
17:00	16	16	15	15	62
18:00	5	10	14	14	43
19:00	8	14	6	2	30
20:00	6	9	6	9	30
21:00	1	6	2	2	11
22:00	3	3	7	1	14
23:00	1	0	1	0	2
				TOTAL	1287
AM PEAK HOUR		0700-0800			
VOLUME		317			
PM PEAK HOUR		1400-1500			
VOLUME		194			

TOTAL BI-DIRECTIONAL VOLUME

2190

# WILTEC

Phone: (626) 564-1944

Fax: (626) 564-0969

## 24-HOUR ADT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: LONG BEACH  
 LOCATION: DAISY AVENUE SOUTH OF  
 DEL AMO BOULEVARD  
 DATE: TUESDAY APRIL 12, 2005

DIRECTION:		NB			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	0	0	0	1	1
1:00	0	0	0	0	0
2:00	1	0	0	0	1
3:00	0	0	0	0	0
4:00	0	0	0	0	0
5:00	0	2	2	2	6
6:00	2	22	32	41	97
7:00	36	28	22	14	100
8:00	12	7	9	6	34
9:00	12	7	8	8	35
10:00	6	15	15	14	50
11:00	14	24	25	21	84
12:00	4	2	8	2	16
13:00	6	3	4	8	21
14:00	8	12	2	10	32
15:00	14	12	4	10	40
16:00	8	10	4	14	36
17:00	4	4	5	5	18
18:00	4	2	1	2	9
19:00	0	2	2	0	4
20:00	1	1	0	0	2
21:00	1	1	0	2	4
22:00	1	0	0	0	1
23:00	0	1	0	0	1
TOTAL					592
AM PEAK HOUR		0630-0730			
VOLUME		137			
PM PEAK HOUR		1445-1545			
VOLUME		40			

DIRECTION:		SB			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	2	0	0	1	3
1:00	0	0	0	1	1
2:00	2	0	0	0	2
3:00	1	4	2	2	9
4:00	4	6	6	14	30
5:00	14	16	20	24	74
6:00	20	22	19	39	100
7:00	15	10	2	7	34
8:00	4	1	1	2	8
9:00	4	2	2	7	15
10:00	4	5	9	22	40
11:00	18	22	20	16	76
12:00	7	8	7	18	40
13:00	14	18	18	16	66
14:00	20	24	24	22	90
15:00	22	20	15	15	72
16:00	16	26	18	28	88
17:00	10	15	16	16	57
18:00	19	14	19	10	62
19:00	4	14	16	6	40
20:00	6	9	7	4	26
21:00	8	11	4	4	27
22:00	1	5	4	2	12
23:00	3	1	3	1	8
TOTAL					980
AM PEAK HOUR		0600-0700			
VOLUME		100			
PM PEAK HOUR		1415-1515			
VOLUME		92			

TOTAL BI-DIRECTIONAL VOLUME

1572

## 24-HOUR ADT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: LONG BEACH  
 LOCATION: OREGON AVENUE SOUTH OF  
 DEL AMO BOULEVARD  
 DATE: TUESDAY APRIL 12, 2005

DIRECTION:		NB			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	5	1	0	2	8
1:00	0	1	0	0	1
2:00	0	1	0	2	3
3:00	1	0	0	0	1
4:00	0	1	1	1	3
5:00	3	4	0	1	8
6:00	1	6	5	14	26
7:00	8	4	10	28	50
8:00	14	19	6	4	43
9:00	3	3	2	8	16
10:00	8	4	2	5	19
11:00	14	8	14	4	40
12:00	14	18	8	8	48
13:00	14	7	5	16	42
14:00	9	14	14	24	61
15:00	10	22	10	19	61
16:00	28	30	38	40	136
17:00	53	92	63	69	277
18:00	10	20	9	8	47
19:00	14	8	3	4	29
20:00	14	8	2	8	32
21:00	4	7	7	5	23
22:00	1	4	2	1	8
23:00	3	4	2	2	11
				TOTAL	993
AM PEAK HOUR		0730-0830			
VOLUME		71			
PM PEAK HOUR		1700-1800			
VOLUME		277			

DIRECTION:		SB			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	0	0	2	0	2
1:00	1	0	0	0	1
2:00	0	0	1	0	1
3:00	0	0	1	0	1
4:00	0	1	1	4	6
5:00	5	6	8	6	25
6:00	3	4	4	2	13
7:00	2	6	4	0	12
8:00	6	6	4	8	24
9:00	2	6	1	5	14
10:00	0	3	2	4	9
11:00	4	2	8	14	28
12:00	8	4	5	5	22
13:00	0	5	2	7	14
14:00	6	9	6	4	25
15:00	5	8	6	6	25
16:00	8	4	3	4	19
17:00	6	22	22	9	59
18:00	5	4	3	5	17
19:00	3	6	3	6	18
20:00	2	4	2	2	10
21:00	0	2	1	6	9
22:00	2	2	3	0	7
23:00	2	4	2	1	9
				TOTAL	370
AM PEAK HOUR		1100-1200			
VOLUME		28			
PM PEAK HOUR		1700-1800			
VOLUME		59			

TOTAL BI-DIRECTIONAL VOLUME

1363

## 24-HOUR ADT COUNT SUMMARY

CLIENT: KAKU ASSOCIATES  
 PROJECT: LONG BEACH  
 LOCATION: CARSON STREET WEST OF  
 VIA ALCALDE AVENUE  
 DATE: THURSDAY APRIL 7, 2005

DIRECTION:		EB			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	0	0	1	0	1
1:00	0	0	0	0	0
2:00	0	0	0	0	0
3:00	1	0	0	0	1
4:00	0	1	1	0	2
5:00	3	4	4	12	23
6:00	12	16	14	7	49
7:00	6	3	8	2	19
8:00	14	16	10	14	54
9:00	12	8	8	11	39
10:00	12	12	4	16	44
11:00	10	4	20	11	45
12:00	54	32	7	12	105
13:00	10	4	5	14	33
14:00	8	8	14	12	42
15:00	14	8	22	22	66
16:00	20	72	40	29	161
17:00	30	22	14	14	80
18:00	5	14	4	4	27
19:00	14	14	8	14	50
20:00	0	2	2	0	4
21:00	0	0	5	2	7
22:00	4	8	2	1	15
23:00	0	0	1	0	1
TOTAL					868
AM PEAK HOUR		0545-0645			
VOLUME		54			
PM PEAK HOUR		1615-1715			
VOLUME		171			

DIRECTION:		WB			
TIME	00-15	15-30	30-45	45-60	HOUR TOTALS
0:00	0	2	0	1	3
1:00	0	0	0	0	0
2:00	0	0	0	0	0
3:00	1	0	0	0	1
4:00	0	1	1	0	2
5:00	0	2	0	0	2
6:00	2	0	1	4	7
7:00	12	28	10	4	54
8:00	16	4	3	4	27
9:00	24	14	4	4	46
10:00	14	10	6	7	37
11:00	22	4	4	16	46
12:00	14	11	16	14	55
13:00	5	9	1	22	37
14:00	14	6	30	16	66
15:00	22	9	25	3	59
16:00	15	20	33	16	84
17:00	18	16	16	14	64
18:00	10	6	6	8	30
19:00	3	6	3	4	16
20:00	8	8	7	10	33
21:00	6	2	0	0	8
22:00	2	1	0	0	3
23:00	5	0	0	1	6
TOTAL					686
AM PEAK HOUR		0715-0815			
VOLUME		58			
PM PEAK HOUR		1615-1715			
VOLUME		87			

TOTAL BI-DIRECTIONAL VOLUME

1554





**ATTACHMENT D**

**INTERSECTION LEVEL OF SERVICE CALCULATIONS**



<b>Project Title: DOMINGUEZ DEFOREST WETLANDS</b> <b>Intersection: SUSANA RD &amp; 710 RAMPS</b> <b>Description: EXISTING CONDITIONS</b>  <b>Date/Time: AM PEAK HOUR (7:30-8:30)</b>						
Thru Lane:	1600 vph			N-S Split Phase :	N	
Left Lane:	1600 vph			E-W Split Phase :	N	
Double Lt Penalty:	10 %			Lost Time (% of cycle) :	10	
ITS:	0 %			V/C Round Off (decs.) :	3	
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.170 *
	TH	2.00	180	3,200	0.056	N-S(2): 0.056
	LT	1.00	59	1,600	0.037 *	E-W(1): 0.331 *
Westbound	RT	0.21	99	333	0.120	E-W(2): 0.120
	TH	0.00	0	0	0.000	
	LT	1.79	853	2,581	0.331 *	V/C: 0.501
Northbound	RT	1.00	114	1,600	0.000	Lost Time: 0.100
	TH	2.00	427	3,200	0.133 *	
	LT	0.00	0	0	0.000	
Eastbound	RT	0.00	0	0	0.000	ICU: 0.601
	TH	0.00	0	0	0.000 *	
	LT	0.00	0	0	0.000	LOS: B
<b>Date/Time: PM PEAK HOUR (7:30-8:30)</b>						
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.209 *
	TH	2.00	401	3,200	0.125	N-S(2): 0.125
	LT	1.00	257	1,600	0.161 *	E-W(1): 0.208 *
Westbound	RT	0.13	39	209	0.000	E-W(2): 0.000
	TH	0.00	0	0	0.000	
	LT	1.87	559	2,692	0.208 *	V/C: 0.417
Northbound	RT	1.00	167	1,600	0.000	Lost Time: 0.100
	TH	2.00	155	3,200	0.048 *	
	LT	0.00	0	0	0.000	
Eastbound	RT	0.00	0	0	0.000	ICU: 0.517
	TH	0.00	0	0	0.000 *	
	LT	0.00	0	0	0.000	LOS: A

\* - Denotes critical movement

<b>Project Title: DOMINGUEZ DEFOREST WETLANDS</b> <b>Intersection: SOUTH-DAISY AVE &amp; DEL AMO BLVD</b> <b>Description: EXISTING CONDITIONS</b>  <b>Date/Time: AM PEAK HOUR (7:30-8:30)</b>						
Thru Lane:	1600 vph			N-S Split Phase :	N	
Left Lane:	1600 vph			E-W Split Phase :	N	
Double Lt Penalty:	10 %			Lost Time (% of cycle) :	10	
ITS:	0 %			V/C Round Off (decs.) :	3	
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.088
	TH	0.00	0	0	0.000 *	N-S(2): 0.119 *
	LT	0.00	0	0	0.000	E-W(1): 0.216
Westbound	RT	0.00	0	0	0.000	E-W(2): 0.474 *
	TH	3.00	2,276	4,800	0.474 *	
	LT	1.00	7	1,600	0.004	V/C: 0.593
Northbound	RT	0.14	27	226	0.088	Lost Time: 0.100
	TH	0.00	0	0	0.000	
	LT	0.86	164	1,374	0.119 *	
Eastbound	RT	0.00	14	0	0.000	ICU: 0.693
	TH	3.00	1,002	4,800	0.212	
	LT	0.00	0	0	0.000 *	LOS: B
<b>Date/Time: PM PEAK HOUR (7:30-8:30)</b>						
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.000
	TH	0.00	0	0	0.000 *	N-S(2): 0.048 *
	LT	0.00	0	0	0.000	E-W(1): 0.458 *
Westbound	RT	0.00	0	0	0.000	E-W(2): 0.220
	TH	3.00	1,054	4,800	0.220	
	LT	1.00	14	1,600	0.009 *	V/C: 0.506
Northbound	RT	0.16	12	249	0.000	Lost Time: 0.100
	TH	0.00	0	0	0.000	
	LT	0.84	65	1,351	0.048 *	
Eastbound	RT	0.00	40	0	0.000	ICU: 0.606
	TH	3.00	2,116	4,800	0.449 *	
	LT	0.00	0	0	0.000	LOS: B

\* - Denotes critical movement

<b>Project Title:</b>		<b>DOMINGUEZ DEFOREST WETLANDS</b>				
<b>Intersection:</b>		<b>NORTH-DAISY AVE &amp; DEL AMO BLVD</b>				
<b>Description:</b>		<b>EXISTING CONDITIONS</b>				
<b>Date/Time:</b>		<b>AM PEAK HOUR (7:30-8:30)</b>				
Thru Lane:		1600 vph	N-S Split Phase :		N	
Left Lane:		1600 vph	E-W Split Phase :		N	
Double Lt Penalty:		10 %	Lost Time (% of cycle) :		10	
ITS:		0 %	V/C Round Off (decs.) :		3	
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	95	1,600	0.026	N-S(1): 0.142 *
	TH	0.00	0	0	0.000	N-S(2): 0.026
	LT	1.00	227	1,600	0.142 *	E-W(1): 0.204
Westbound	RT	0.00	36	0	0.000	E-W(2): 0.497 *
	TH	3.00	2,188	4,800	0.463 *	
	LT	0.00	0	0	0.000	V/C: 0.639
Northbound	RT	0.00	0	0	0.000	Lost Time: 0.100
	TH	0.00	0	0	0.000 *	
	LT	0.00	0	0	0.000	
Eastbound	RT	0.00	0	0	0.000	ICU: 0.739
	TH	3.00	978	4,800	0.204	
	LT	1.00	54	1,600	0.034 *	LOS: C
<b>Date/Time:</b>		<b>PM PEAK HOUR (7:30-8:30)</b>				
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	53	1,600	0.000	N-S(1): 0.014 *
	TH	0.00	0	0	0.000	N-S(2): 0.000
	LT	1.00	22	1,600	0.014 *	E-W(1): 0.426 *
Westbound	RT	0.00	11	0	0.000	E-W(2): 0.283
	TH	3.00	997	4,800	0.210	
	LT	0.00	0	0	0.000 *	V/C: 0.440
Northbound	RT	0.00	0	0	0.000	Lost Time: 0.100
	TH	0.00	0	0	0.000 *	
	LT	0.00	0	0	0.000	
Eastbound	RT	0.00	0	0	0.000	ICU: 0.540
	TH	3.00	2,045	4,800	0.426 *	
	LT	1.00	116	1,600	0.073	LOS: A

\* - Denotes critical movement

<b>Project Title: DOMINGUEZ DEFOREST WETLANDS</b>						
<b>Intersection: LONG BEACH BLVD &amp; DEL AMO BLVD</b>						
<b>Description: EXISTING CONDITIONS</b>						
<b>Date/Time: AM PEAK HOUR (7:30-8:30)</b>						
Thru Lane: 1600 vph		N-S Split Phase : N				
Left Lane: 1600 vph		E-W Split Phase : N				
Double Lt Penalty: 10 %		Lost Time (% of cycle) : 10				
ITS: 0 %		V/C Round Off (decs.) : 3				
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	295	1,600	0.118	N-S(1): 0.307
	TH	2.00	664	3,200	0.208 *	N-S(2): 0.382 *
	LT	1.00	164	1,600	0.103	E-W(1): 0.200
Westbound	RT	1.00	146	1,600	0.000	E-W(2): 0.393 *
	TH	3.00	1,533	4,800	0.319 *	
	LT	2.00	127	2,880	0.044	V/C: 0.775
Northbound	RT	1.00	83	1,600	0.012	Lost Time: 0.100
	TH	2.00	653	3,200	0.204	
	LT	1.00	278	1,600	0.174 *	
Eastbound	RT	1.00	207	1,600	0.000	ICU: 0.875
	TH	3.00	747	4,800	0.156	
	LT	2.00	213	2,880	0.074 *	LOS: D
<b>Date/Time: PM PEAK HOUR (7:30-8:30)</b>						
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	111	1,600	0.014	N-S(1): 0.374 *
	TH	2.00	687	3,200	0.215	N-S(2): 0.341
	LT	1.00	211	1,600	0.132 *	E-W(1): 0.347 *
Westbound	RT	1.00	151	1,600	0.000	E-W(2): 0.215
	TH	3.00	738	4,800	0.154	
	LT	2.00	166	2,880	0.058 *	V/C: 0.721
Northbound	RT	1.00	202	1,600	0.074	Lost Time: 0.100
	TH	2.00	774	3,200	0.242 *	
	LT	1.00	202	1,600	0.126	
Eastbound	RT	1.00	140	1,600	0.000	ICU: 0.821
	TH	3.00	1,386	4,800	0.289 *	
	LT	2.00	177	2,880	0.061	LOS: D

\* - Denotes critical movement

<b>Project Title: DOMINGUEZ DEFOREST WETLANDS</b> <b>Intersection: LONG BEACH BLVD &amp; MARKET ST</b> <b>Description: EXISTING CONDITIONS</b>  <b>Date/Time: AM PEAK HOUR (7:30-8:30)</b>						
Thru Lane:	1600 vph			N-S Split Phase :	N	
Left Lane:	1600 vph			E-W Split Phase :	N	
Double Lt Penalty:	10 %			Lost Time (% of cycle) :	10	
ITS:	0 %			V/C Round Off (decs.) :	3	
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	40	0	0.000	N-S(1): 0.435 *
	TH	2.00	803	3,200	0.263	N-S(2): 0.271
	LT	1.00	167	1,600	0.104 *	E-W(1): 0.271 *
Westbound	RT	1.00	285	1,600	0.074	E-W(2): 0.229
	TH	1.00	31	1,600	0.191	
	LT	0.00	275	1,600	0.172 *	V/C: 0.706
Northbound	RT	0.00	147	0	0.000	Lost Time: 0.100
	TH	2.00	911	3,200	0.331 *	
	LT	1.00	13	1,600	0.008	
Eastbound	RT	0.00	32	0	0.000	ICU: 0.806
	TH	1.00	65	1,600	0.099 *	
	LT	0.00	61	1,600	0.038	LOS: D
<b>Date/Time: PM PEAK HOUR (7:30-8:30)</b>						
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	39	0	0.000	N-S(1): 0.531 *
	TH	2.00	1,040	3,200	0.337	N-S(2): 0.351
	LT	1.00	322	1,600	0.201 *	E-W(1): 0.291 *
Westbound	RT	1.00	128	1,600	0.000	E-W(2): 0.191
	TH	1.00	40	1,600	0.148	
	LT	0.00	197	1,600	0.123 *	V/C: 0.822
Northbound	RT	0.00	251	0	0.000	Lost Time: 0.100
	TH	2.00	804	3,200	0.330 *	
	LT	1.00	23	1,600	0.014	
Eastbound	RT	0.00	34	0	0.000	ICU: 0.922
	TH	1.00	165	1,600	0.168 *	
	LT	0.00	69	1,600	0.043	LOS: E

\* - Denotes critical movement

**Project Title:** DOMINGUEZ DEFOREST WETLANDS  
**Intersection:** SUSANA RD & 710 RAMPS  
**Description:** CUMULATIVE BASE (2007) CONDITIONS

**Date/Time:** AM PEAK HOUR (7:30-8:30)

Thru Lane: 1600 vph  
Left Lane: 1600 vph  
Double Lt Penalty: 10 %  
ITS: 0 %

N-S Split Phase : N  
E-W Split Phase : N  
Lost Time (% of cycle) : 10  
V/C Round Off (decs.) : 3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.174 *
	TH	2.00	184	3,200	0.057	N-S(2): 0.057
	LT	1.00	60	1,600	0.038 *	E-W(1): 0.338 *
Westbound	RT	0.21	101	332	0.123	E-W(2): 0.123
	TH	0.00	0	0	0.000	
	LT	1.79	872	2,581	0.338 *	V/C: 0.512
Northbound	RT	1.00	116	1,600	0.000	Lost Time: 0.100
	TH	2.00	436	3,200	0.136 *	
	LT	0.00	0	0	0.000	
Eastbound	RT	0.00	0	0	0.000	ICU: 0.612
	TH	0.00	0	0	0.000 *	
	LT	0.00	0	0	0.000	LOS: B

**Date/Time:** PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.213 *
	TH	2.00	409	3,200	0.128	N-S(2): 0.128
	LT	1.00	262	1,600	0.164 *	E-W(1): 0.212 *
Westbound	RT	0.13	40	208	0.000	E-W(2): 0.000
	TH	0.00	0	0	0.000	
	LT	1.87	571	2,692	0.212 *	V/C: 0.425
Northbound	RT	1.00	170	1,600	0.000	Lost Time: 0.100
	TH	2.00	158	3,200	0.049 *	
	LT	0.00	0	0	0.000	
Eastbound	RT	0.00	0	0	0.000	ICU: 0.525
	TH	0.00	0	0	0.000 *	
	LT	0.00	0	0	0.000	LOS: A

\* - Denotes critical movement



<b>Project Title: DOMINGUEZ DEFOREST WETLANDS</b>						
<b>Intersection: SOUTH-DAISY AVE &amp; DEL AMO BLVD</b>						
<b>Description: CUMULATIVE BASE (2007) CONDITIONS</b>						
<b>Date/Time: AM PEAK HOUR (7:30-8:30)</b>						
Thru Lane:	1600 vph				N-S Split Phase :	N
Left Lane:	1600 vph				E-W Split Phase :	N
Double Lt Penalty:	10 %				Lost Time (% of cycle) :	10
ITS:	0 %				V/C Round Off (decs.) :	3
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.090
	TH	0.00	0	0	0.000 *	N-S(2): 0.122 *
	LT	0.00	0	0	0.000	E-W(1): 0.221
Westbound	RT	0.00	0	0	0.000	E-W(2): 0.485 *
	TH	3.00	2,327	4,800	0.485 *	
	LT	1.00	7	1,600	0.004	V/C: 0.607
Northbound	RT	0.14	28	226	0.090	Lost Time: 0.100
	TH	0.00	0	0	0.000	
	LT	0.86	167	1,374	0.122 *	
Eastbound	RT	0.00	14	0	0.000	ICU: 0.707
	TH	3.00	1,029	4,800	0.217	
	LT	0.00	0	0	0.000 *	LOS: C
<b>Date/Time: PM PEAK HOUR (7:30-8:30)</b>						
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.000
	TH	0.00	0	0	0.000 *	N-S(2): 0.049 *
	LT	0.00	0	0	0.000	E-W(1): 0.468 *
Westbound	RT	0.00	0	0	0.000	E-W(2): 0.225
	TH	3.00	1,082	4,800	0.225	
	LT	1.00	14	1,600	0.009 *	V/C: 0.517
Northbound	RT	0.16	12	249	0.000	Lost Time: 0.100
	TH	0.00	0	0	0.000	
	LT	0.84	66	1,351	0.049 *	
Eastbound	RT	0.00	41	0	0.000	ICU: 0.617
	TH	3.00	2,163	4,800	0.459 *	
	LT	0.00	0	0	0.000	LOS: B

\* - Denotes critical movement

<b>Project Title:</b>		DOMINGUEZ DEFOREST WETLANDS				
<b>Intersection:</b>		NORTH-DAISY AVE & DEL AMO BLVD				
<b>Description:</b>		CUMULATIVE BASE (2007) CONDITIONS				
<b>Date/Time:</b>		AM PEAK HOUR (7:30-8:30)				
Thru Lane:	1600 vph				N-S Split Phase :	N
Left Lane:	1600 vph				E-W Split Phase :	N
Double Lt Penalty:	10 %				Lost Time (% of cycle) :	10
ITS:	0 %				V/C Round Off (decs.) :	3
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	97	1,600	0.026	N-S(1): 0.145 *
	TH	0.00	0	0	0.000	N-S(2): 0.026
	LT	1.00	232	1,600	0.145 *	E-W(1): 0.209
Westbound	RT	0.00	37	0	0.000	E-W(2): 0.508 *
	TH	3.00	2,237	4,800	0.474 *	
	LT	0.00	0	0	0.000	V/C: 0.653
Northbound	RT	0.00	0	0	0.000	Lost Time: 0.100
	TH	0.00	0	0	0.000 *	
	LT	0.00	0	0	0.000	
Eastbound	RT	0.00	0	0	0.000	ICU: 0.753
	TH	3.00	1,005	4,800	0.209	
	LT	1.00	55	1,600	0.034 *	LOS: C
<b>Date/Time:</b>		PM PEAK HOUR (7:30-8:30)				
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	54	1,600	0.000	N-S(1): 0.014 *
	TH	0.00	0	0	0.000	N-S(2): 0.000
	LT	1.00	22	1,600	0.014 *	E-W(1): 0.436 *
Westbound	RT	0.00	11	0	0.000	E-W(2): 0.290
	TH	3.00	1,024	4,800	0.216	
	LT	0.00	0	0	0.000 *	V/C: 0.450
Northbound	RT	0.00	0	0	0.000	Lost Time: 0.100
	TH	0.00	0	0	0.000 *	
	LT	0.00	0	0	0.000	
Eastbound	RT	0.00	0	0	0.000	ICU: 0.550
	TH	3.00	2,091	4,800	0.436 *	
	LT	1.00	118	1,600	0.074	LOS: A

\* - Denotes critical movement

<b>Project Title:</b>		<b>DOMINGUEZ DEFOREST WETLANDS</b>				
<b>Intersection:</b>		<b>LONG BEACH BLVD &amp; DEL AMO BLVD</b>				
<b>Description:</b>		<b>CUMULATIVE BASE (2007) CONDITIONS</b>				
<b>Date/Time:</b>		<b>AM PEAK HOUR (7:30-8:30)</b>				
Thru Lane:	1600 vph			N-S Split Phase :	N	
Left Lane:	1600 vph			E-W Split Phase :	N	
Double Lt Penalty:	10 %			Lost Time (% of cycle) :	10	
ITS:	0 %			V/C Round Off (decs.) :	3	
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	305	1,600	0.121	N-S(1): 0.317
	TH	2.00	687	3,200	0.215 *	N-S(2): 0.393 *
	LT	1.00	171	1,600	0.107	E-W(1): 0.205
Westbound	RT	1.00	153	1,600	0.000	E-W(2): 0.403 *
	TH	3.00	1,564	4,800	0.326 *	
	LT	2.00	133	2,880	0.046	V/C: 0.796
Northbound	RT	1.00	86	1,600	0.012	Lost Time: 0.100
	TH	2.00	672	3,200	0.210	
	LT	1.00	285	1,600	0.178 *	
Eastbound	RT	1.00	214	1,600	0.000	ICU: 0.896
	TH	3.00	762	4,800	0.159	
	LT	2.00	221	2,880	0.077 *	LOS: D
<b>Date/Time:</b>		<b>PM PEAK HOUR (7:30-8:30)</b>				
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	116	1,600	0.015	N-S(1): 0.386 *
	TH	2.00	708	3,200	0.221	N-S(2): 0.352
	LT	1.00	218	1,600	0.136 *	E-W(1): 0.354 *
Westbound	RT	1.00	157	1,600	0.000	E-W(2): 0.221
	TH	3.00	753	4,800	0.157	
	LT	2.00	170	2,880	0.059 *	V/C: 0.740
Northbound	RT	1.00	210	1,600	0.078	Lost Time: 0.100
	TH	2.00	800	3,200	0.250 *	
	LT	1.00	210	1,600	0.131	
Eastbound	RT	1.00	145	1,600	0.000	ICU: 0.840
	TH	3.00	1,414	4,800	0.295 *	
	LT	2.00	184	2,880	0.064	LOS: D

\* - Denotes critical movement

<b>Project Title: DOMINGUEZ DEFOREST WETLANDS</b> <b>Intersection: LONG BEACH BLVD &amp; MARKET ST</b> <b>Description: CUMULATIVE BASE (2007) CONDITIONS</b>  <b>Date/Time: AM PEAK HOUR (7:30-8:30)</b>						
Thru Lane:	1600 vph			N-S Split Phase :	N	
Left Lane:	1600 vph			E-W Split Phase :	N	
Double Lt Penalty:	10 %			Lost Time (% of cycle) :	10	
ITS:	0 %			V/C Round Off (decs.) :	3	
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	41	0	0.000	N-S(1): 0.449 *
	TH	2.00	833	3,200	0.273	N-S(2): 0.281
	LT	1.00	174	1,600	0.109 *	E-W(1): 0.276 *
Westbound	RT	1.00	295	1,600	0.075	E-W(2): 0.234
	TH	1.00	32	1,600	0.195	
	LT	0.00	281	1,600	0.175 *	V/C: 0.725
Northbound	RT	0.00	150	0	0.000	Lost Time: 0.100
	TH	2.00	939	3,200	0.340 *	
	LT	1.00	13	1,600	0.008	
Eastbound	RT	0.00	33	0	0.000	ICU: 0.825
	TH	1.00	66	1,600	0.101 *	
	LT	0.00	62	1,600	0.039	LOS: D
<b>Date/Time: PM PEAK HOUR (7:30-8:30)</b>						
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	40	0	0.000	N-S(1): 0.548 *
	TH	2.00	1,071	3,200	0.347	N-S(2): 0.362
	LT	1.00	330	1,600	0.207 *	E-W(1): 0.297 *
Westbound	RT	1.00	133	1,600	0.000	E-W(2): 0.195
	TH	1.00	41	1,600	0.151	
	LT	0.00	201	1,600	0.126 *	V/C: 0.845
Northbound	RT	0.00	256	0	0.000	Lost Time: 0.100
	TH	2.00	834	3,200	0.341 *	
	LT	1.00	23	1,600	0.015	
Eastbound	RT	0.00	35	0	0.000	ICU: 0.945
	TH	1.00	168	1,600	0.171 *	
	LT	0.00	70	1,600	0.044	LOS: E

\* - Denotes critical movement

**Project Title:** DOMINGUEZ DEFOREST WETLANDS  
**Intersection:** SUSANA RD & 710 RAMPS  
**Description:** CUMULATIVE PLUS PROJECT CONDITIONS

**Date/Time:** AM PEAK HOUR (7:30-8:30)

Thru Lane: 1600 vph  
Left Lane: 1600 vph  
Double Lt Penalty: 10 %  
ITS: 0 %

N-S Split Phase : N  
E-W Split Phase : N  
Lost Time (% of cycle) : 10  
V/C Round Off (decs.) : 3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.174 *
	TH	2.00	184	3,200	0.057	N-S(2): 0.057
	LT	1.00	60	1,600	0.038 *	E-W(1): 0.338 *
Westbound	RT	0.21	101	332	0.123	E-W(2): 0.123
	TH	0.00	0	0	0.000	
	LT	1.79	873	2,581	0.338 *	V/C: 0.512
Northbound	RT	1.00	116	1,600	0.000	Lost Time: 0.100
	TH	2.00	436	3,200	0.136 *	
	LT	0.00	0	0	0.000	
Eastbound	RT	0.00	0	0	0.000	ICU: 0.612
	TH	0.00	0	0	0.000 *	
	LT	0.00	0	0	0.000	LOS: B

**Date/Time:** PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.213 *
	TH	2.00	409	3,200	0.128	N-S(2): 0.128
	LT	1.00	262	1,600	0.164 *	E-W(1): 0.212 *
Westbound	RT	0.13	40	208	0.000	E-W(2): 0.000
	TH	0.00	0	0	0.000	
	LT	1.87	571	2,692	0.212 *	V/C: 0.425
Northbound	RT	1.00	170	1,600	0.000	Lost Time: 0.100
	TH	2.00	158	3,200	0.049 *	
	LT	0.00	0	0	0.000	
Eastbound	RT	0.00	0	0	0.000	ICU: 0.525
	TH	0.00	0	0	0.000 *	
	LT	0.00	0	0	0.000	LOS: A

\* - Denotes critical movement

<b>Project Title: DOMINGUEZ DEFOREST WETLANDS</b> <b>Intersection: SOUTH-DAISY AVE &amp; DEL AMO BLVD</b> <b>Description: CUMULATIVE PLUS PROJECT CONDITIONS</b>  <b>Date/Time: AM PEAK HOUR (7:30-8:30)</b>						
Thru Lane:	1600 vph			N-S Split Phase :	N	
Left Lane:	1600 vph			E-W Split Phase :	N	
Double Lt Penalty:	10 %			Lost Time (% of cycle) :	10	
ITS:	0 %			V/C Round Off (decs.) :	3	
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.090
	TH	0.00	0	0	0.000 *	N-S(2): 0.122 *
	LT	0.00	0	0	0.000	E-W(1): 0.222
Westbound	RT	0.00	0	0	0.000	E-W(2): 0.485 *
	TH	3.00	2,327	4,800	0.485 *	
	LT	1.00	7	1,600	0.004	V/C: 0.607
Northbound	RT	0.14	28	226	0.090	Lost Time: 0.100
	TH	0.00	0	0	0.000	
	LT	0.86	167	1,374	0.122 *	
Eastbound	RT	0.00	14	0	0.000	ICU: 0.707
	TH	3.00	1,030	4,800	0.218	
	LT	0.00	0	0	0.000 *	LOS: C
<b>Date/Time: PM PEAK HOUR (7:30-8:30)</b>						
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	0	0	0.000	N-S(1): 0.000
	TH	0.00	0	0	0.000 *	N-S(2): 0.049 *
	LT	0.00	0	0	0.000	E-W(1): 0.468 *
Westbound	RT	0.00	0	0	0.000	E-W(2): 0.225
	TH	3.00	1,082	4,800	0.225	
	LT	1.00	14	1,600	0.009 *	V/C: 0.517
Northbound	RT	0.16	12	249	0.000	Lost Time: 0.100
	TH	0.00	0	0	0.000	
	LT	0.84	66	1,351	0.049 *	
Eastbound	RT	0.00	41	0	0.000	ICU: 0.617
	TH	3.00	2,163	4,800	0.459 *	
	LT	0.00	0	0	0.000	LOS: B

\* - Denotes critical movement

**Project Title:** DOMINGUEZ DEFOREST WETLANDS  
**Intersection:** NORTH-DAISY AVE & DEL AMO BLVD  
**Description:** CUMULATIVE PLUS PROJECT CONDITIONS

**Date/Time:** AM PEAK HOUR (7:30-8:30)

Thru Lane: 1600 vph  
Left Lane: 1600 vph  
Double Lt Penalty: 10 %  
ITS: 0 %

N-S Split Phase : N  
E-W Split Phase : N  
Lost Time (% of cycle) : 10  
V/C Round Off (decs.) : 3

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	97	1,600	0.026	N-S(1): 0.145 *
	TH	0.00	0	0	0.000	N-S(2): 0.026
	LT	1.00	232	1,600	0.145 *	E-W(1): 0.209
Westbound	RT	0.00	37	0	0.000	E-W(2): 0.509 *
	TH	3.00	2,237	4,800	0.474 *	
	LT	0.00	0	0	0.000	V/C: 0.654
Northbound	RT	0.00	0	0	0.000	Lost Time: 0.100
	TH	0.00	0	0	0.000 *	
	LT	0.00	0	0	0.000	
Eastbound	RT	0.00	0	0	0.000	ICU: 0.754
	TH	3.00	1,005	4,800	0.209	
	LT	1.00	56	1,600	0.035 *	LOS: C

**Date/Time:** PM PEAK HOUR (7:30-8:30)

APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	54	1,600	0.000	N-S(1): 0.014 *
	TH	0.00	0	0	0.000	N-S(2): 0.000
	LT	1.00	22	1,600	0.014 *	E-W(1): 0.436 *
Westbound	RT	0.00	11	0	0.000	E-W(2): 0.290
	TH	3.00	1,024	4,800	0.216	
	LT	0.00	0	0	0.000 *	V/C: 0.450
Northbound	RT	0.00	0	0	0.000	Lost Time: 0.100
	TH	0.00	0	0	0.000 *	
	LT	0.00	0	0	0.000	
Eastbound	RT	0.00	0	0	0.000	ICU: 0.550
	TH	3.00	2,091	4,800	0.436 *	
	LT	1.00	118	1,600	0.074	LOS: A

\* - Denotes critical movement

<b>Project Title:</b> DOMINGUEZ DEFOREST WETLANDS <b>Intersection:</b> LONG BEACH BLVD & DEL AMO BLVD <b>Description:</b> CUMULATIVE PLUS PROJECT CONDITIONS  <b>Date/Time:</b> AM PEAK HOUR (7:30-8:30)						
Thru Lane:	1600 vph			N-S Split Phase :	N	
Left Lane:	1600 vph			E-W Split Phase :	N	
Double Lt Penalty:	10 %			Lost Time (% of cycle) :	10	
ITS:	0 %			V/C Round Off (decs.) :	3	
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	305	1,600	0.121	N-S(1): 0.318
	TH	2.00	687	3,200	0.215 *	N-S(2): 0.393 *
	LT	1.00	172	1,600	0.108	E-W(1): 0.205
Westbound	RT	1.00	154	1,600	0.000	E-W(2): 0.403 *
	TH	3.00	1,564	4,800	0.326 *	
	LT	2.00	133	2,880	0.046	V/C: 0.796
Northbound	RT	1.00	86	1,600	0.012	Lost Time: 0.100
	TH	2.00	672	3,200	0.210	
	LT	1.00	285	1,600	0.178 *	
Eastbound	RT	1.00	214	1,600	0.000	ICU: 0.896
	TH	3.00	762	4,800	0.159	
	LT	2.00	221	2,880	0.077 *	LOS: D
<b>Date/Time:</b> PM PEAK HOUR (7:30-8:30)						
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	1.00	116	1,600	0.015	N-S(1): 0.387 *
	TH	2.00	708	3,200	0.221	N-S(2): 0.352
	LT	1.00	219	1,600	0.137 *	E-W(1): 0.354 *
Westbound	RT	1.00	158	1,600	0.000	E-W(2): 0.221
	TH	3.00	753	4,800	0.157	
	LT	2.00	170	2,880	0.059 *	V/C: 0.741
Northbound	RT	1.00	210	1,600	0.078	Lost Time: 0.100
	TH	2.00	800	3,200	0.250 *	
	LT	1.00	210	1,600	0.131	
Eastbound	RT	1.00	145	1,600	0.000	ICU: 0.841
	TH	3.00	1,414	4,800	0.295 *	
	LT	2.00	184	2,880	0.064	LOS: D

\* - Denotes critical movement



<b>Project Title: DOMINGUEZ DEFOREST WETLANDS</b> <b>Intersection: LONG BEACH BLVD &amp; MARKET ST</b> <b>Description: CUMULATIVE PLUS PROJECT CONDITIONS</b>  <b>Date/Time: AM PEAK HOUR (7:30-8:30)</b>						
Thru Lane:	1600 vph			N-S Split Phase :	N	
Left Lane:	1600 vph			E-W Split Phase :	N	
Double Lt Penalty:	10 %			Lost Time (% of cycle) :	10	
ITS:	0 %			V/C Round Off (decs.) :	3	
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	41	0	0.000	N-S(1): 0.450 *
	TH	2.00	834	3,200	0.273	N-S(2): 0.281
	LT	1.00	174	1,600	0.109 *	E-W(1): 0.276 *
Westbound	RT	1.00	295	1,600	0.075	E-W(2): 0.234
	TH	1.00	32	1,600	0.195	
	LT	0.00	281	1,600	0.175 *	V/C: 0.726
Northbound	RT	0.00	150	0	0.000	Lost Time: 0.100
	TH	2.00	940	3,200	0.341 *	
	LT	1.00	13	1,600	0.008	
Eastbound	RT	0.00	33	0	0.000	ICU: 0.826
	TH	1.00	66	1,600	0.101 *	
	LT	0.00	62	1,600	0.039	LOS: D
<b>Date/Time: PM PEAK HOUR (7:30-8:30)</b>						
APPROACH	MVMT	LANES	VOLUME	CAPACITY	V/C	ICU ANALYSIS
Southbound	RT	0.00	40	0	0.000	N-S(1): 0.548 *
	TH	2.00	1,072	3,200	0.347	N-S(2): 0.362
	LT	1.00	330	1,600	0.207 *	E-W(1): 0.297 *
Westbound	RT	1.00	133	1,600	0.000	E-W(2): 0.195
	TH	1.00	41	1,600	0.151	
	LT	0.00	201	1,600	0.126 *	V/C: 0.845
Northbound	RT	0.00	256	0	0.000	Lost Time: 0.100
	TH	2.00	835	3,200	0.341 *	
	LT	1.00	23	1,600	0.015	
Eastbound	RT	0.00	35	0	0.000	ICU: 0.945
	TH	1.00	168	1,600	0.171 *	
	LT	0.00	70	1,600	0.044	LOS: E

\* - Denotes critical movement



**ATTACHMENT E**  
**PARKING OCCUPANCY DATA**



Table E-1: Weekday Parking Utilization - Section 1 (Thursday, April 7, 2005)

Segment	From	To	Side	Capacity	Occupancy							
					12:00 to 1:00	1:00 to 2:00	2:00 to 3:00	3:00 to 4:00	4:00 to 5:00	5:00 to 6:00	6:00 to 7:00	7:00 to 8:00
63rd St	De Forest Av	Elm St	S	17	1	1	1	3	3	3	5	7
			N	18	3	2	2	3	1	3	4	6
Poppy St	De Forest Av	Elm St	S	23	9	6	6	10	7	8	10	12
			N	23	4	3	5	4	3	4	6	9
Harding St	De Forest Av	Elm St	S	29	3	3	3	3	2	4	7	7
			N	27	5	5	8	6	6	5	6	8
Janice St	De Forest Av	Elm St	S	34	9	9	11	9	11	10	12	12
			N	34	7	5	3	2	4	6	9	12
Smith St	De Forest Av	Elm St	S	39	14	14	13	12	13	10	15	16
			N	40	8	9	7	8	11	12	9	9
61st St	De Forest Av	Elm St	S	44	16	13	15	15	15	14	11	16
			N	44	10	9	11	10	12	9	12	11
Adair St	60th St	Jaymills Av	S	29	6	7	8	7	6	8	9	12
			N	32	7	5	5	6	6	7	7	9
60th St	De Forest Av	Jaymills Av	S	31	0	1	0	2	2	4	4	5
			N	30	9	5	5	5	6	5	6	6
Osgood St	De Forest Av	Jaymills Av	S	28	8	6	6	7	8	10	11	13
			N	30	5	6	8	7	9	5	6	10
59th St	De Forest Av	Jaymills Av	S	29	6	5	3	4	7	6	6	8
			N	30	4	5	9	9	8	9	10	11
Hullett St	59th St	Jaymills Av	S	32	3	2	2	2	1	3	5	5
			N	32	8	8	9	9	9	8	8	10
Hullett Turn	Hullett St	End	E	6	2	2	2	2	1	2	3	3
			W	6	3	3	3	3	3	3	3	3
South St	De Forest Av	Jaymills Av	S	0	0	0	0	0	0	0	0	0
			N	0	0	0	0	0	0	0	0	0
Cedar Av	De Forest Av	Jaymills Av	S	25	2	2	1	1	0	1	1	2
			N	26	2	4	3	3	4	5	6	6
Cedar Turn	Cedar Av	South St	S	11	2	2	2	2	3	3	4	4
			N	11	0	0	0	1	1	1	1	2
Chestnut Av	De Forest Av	Jaymills Av	E	19	4	9	2	5	6	9	10	12
			W	16	7	2	7	9	8	9	8	10
	Jaymills Av	57th St	E	0	0	0	0	0	0	0	0	0
			W	11	4	4	4	4	4	4	4	4
	57th St	56th St	E	0	0	0	0	0	0	0	0	0
			W	8	4	2	3	2	2	2	4	3
	56th St	Ellis St	E	0	0	0	0	0	0	0	0	0
			W	8	4	5	5	3	6	6	7	7
	Ellis St	55th St	E	0	0	0	0	0	0	0	1	0
			W	9	5	6	6	6	6	6	8	8
57th St	Chestnut Av	Norton St	E	5	0	0	0	0	0	1	1	1
			W	4	0	1	1	1	1	1	2	3
	Norton St	Lester St/57th St	E	17	4	6	5	5	5	6	5	7
			W	18	4	8	9	6	7	10	8	9
Lester St	57th St	Jaymills Av	E	4	2	1	1	1	1	1	1	1
			W	3	1	0	1	1	1	1	1	1
De Forest Av	Chestnut Av	Cedar Av	E	7	0	0	0	0	0	0	0	0
			W	10	2	1	0	1	1	0	2	3
	Cedar Av	South St	E	6	0	0	0	0	0	0	0	0
			W	9	0	0	0	0	0	1	2	2
	South St	59th St	E	18	1	0	0	0	0	0	0	0
			W	19	0	1	0	0	0	2	1	1
	59th St	Osgood St	E	10	0	0	0	0	0	0	1	0
			W	12	0	1	2	2	1	0	2	3
	Osgood St	60th St	E	10	0	0	0	1	0	0	0	0
			W	12	1	0	0	2	1	3	7	5
	60th St	61st St	E	12	0	2	0	1	0	1	0	0
			W	15	1	1	1	0	0	1	3	2
	61st St	Smith St	E	11	0	0	0	0	0	1	0	1
			W	14	0	1	0	0	0	1	1	2
	Smith St	Janice St	E	11	1	0	0	0	0	0	0	0
			W	12	0	1	1	1	2	1	0	1
	Janice St	Harding St	E	11	0	0	0	0	0	0	0	0
			W	14	0	0	0	0	0	1	0	0
	Harding St	Poppy St	E	10	0	0	1	0	1	1	0	1
			W	13	0	0	3	2	2	3	0	1
Poppy St	63rd St		E	11	1	1	1	1	1	1	2	1
			W	18	0	0	1	0	2	0	1	0

**Table E-1 (Continued): Weekday Parking Utilization - Section 1 (Thursday, April 7, 2005)**

Segment	From	To	Side	Capacity	Occupancy							
					12:00 to 1:00	1:00 to 2:00	2:00 to 3:00	3:00 to 4:00	4:00 to 5:00	5:00 to 6:00	6:00 to 7:00	7:00 to 8:00
Elm St	End	63rd St	E	5	0	1	1	1	1	1	1	1
			W	4	1	1	1	1	1	1	1	
	63rd St	Poppy St	E	7	0	1	0	1	1	1	1	2
			W	7	1	1	0	0	0	0	1	1
	Poppy St	Harding St	E	7	0	0	0	0	0	0	1	1
			W	7	1	1	1	2	2	1	1	3
	Harding St	Janice St	E	7	1	1	1	1	1	1	1	1
			W	7	0	0	0	0	0	0	0	0
	Janice St	Smith St	E	8	1	0	0	0	1	1	0	0
			W	8	0	2	2	2	3	2	2	3
	Smith St	61st St	E	8	0	0	1	0	0	0	0	1
			W	8	0	0	0	0	2	1	1	2
Jaymills Av	61st St	Adair St	E	8	2	3	3	3	2	2	2	3
			W	10	1	0	0	0	0	1	0	2
	Adair St	Adair St	E	7	0	0	0	0	7	1	1	1
			W	7	2	3	3	2	3	4	4	4
	Adair St	60th St	E	5	1	1	0	0	0	0	0	1
			W	7	1	0	0	0	0	2	2	3
	60th St	60th St	E	4	0	1	1	1	0	1	1	1
			W	3	0	0	0	1	1	1	1	1
	60th St	Osgood St	E	9	0	0	0	0	0	0	0	0
			W	8	0	1	2	2	1	3	4	4
	Osgood St	59th St	E	9	3	0	0	0	0	0	0	2
			W	9	1	1	1	1	1	1	2	1
	59th St	Hullett St	E	9	1	0	1	0	1	0	0	1
			W	9	2	0	0	0	0	0	1	2
	Hullett St	South St	E	9	2	2	3	2	1	3	3	4
			W	9	0	0	0	0	0	0	0	0
	South St	Lester St	E	12	6	5	5	6	7	6	4	7
			W	12	5	5	5	4	5	4	5	6
	Lester St	Cedar Av	E	9	1	1	1	1	2	0	0	2
			W	9	2	2	2	2	3	2	2	3
	Cedar Av	Chestnut Av	E	11	4	6	5	5	5	4	4	6
			W	9	0	2	1	0	0	0	0	2
56th St	Long Beach Bl	Chestnut Av	S	23	0	0	0	0	0	0	0	0
			N	20	12	13	12	11	14	16	19	19
			S	20	17	16	13	15	17	17	19	20
Ellis Av	Long Beach Bl	Chestnut Av	N	17	0	1	0	1	0	0	0	0
			S	18	10	10	11	10	9	12	15	16
55th St	Long Beach Bl	Chestnut Av	N	18	11	12	11	11	12	12	14	14
Long Beach Bl	I-710 E Ramps	56th St	E	0	0	0	0	0	0	0	0	0
			W	0	0	0	0	0	0	0	0	0
	56th St	Ellis St	E	0	0	0	0	0	0	0	0	0
			W	4	0	4	2	2	2	1	1	2
	Ellis St	55th St	E	5	3	1	2	1	4	2	2	2
			W	0	3	0	0	0	0	0	0	0
	55th St	Louise St	E	11	3	1	5	6	4	4	6	5
			W	9	0	2	2	1	2	3	3	4
	Louise St	Market St	E	5	4	2	6	6	3	1	5	4
			W	7	4	3	4	7	4	5	5	5
Parking Lot	De Forest Park			36	2	1	1	2	2	4	3	4
Total available spaces:				1,607								
Percentage of spaces occupied:					17%	16%	17%	17%	19%	19%	22%	26%
Total spaces occupied:					278	265	268	274	301	311	356	425

Note: Where no striped spaces exist, 22' provided per space unless observations in a particular segment indicated a higher usage

**Table E-2: Weekday Parking Utilization - Section 1 (Thursday, April 7, 2005) - Percentage Occupied**

Segment	From	To	Side	Capacity	Occupancy							
					12:00 to 1:00 - % Occupied	1:00 to 2:00 - % Occupied	2:00 to 3:00 - % Occupied	3:00 to 4:00 - % Occupied	4:00 to 5:00 - % Occupied	5:00 to 6:00 - % Occupied	6:00 to 7:00 - % Occupied	7:00 to 8:00 - % Occupied
63rd St	De Forest Av	Elm St	S	17	6%	6%	6%	18%	18%	18%	29%	41%
			N	18	17%	11%	11%	17%	6%	17%	22%	33%
Poppy St	De Forest Av	Elm St	S	23	39%	26%	26%	43%	30%	35%	43%	52%
			N	23	17%	13%	22%	17%	13%	17%	26%	39%
Harding St	De Forest Av	Elm St	S	29	10%	10%	10%	10%	7%	14%	24%	24%
			N	27	19%	19%	30%	22%	22%	19%	22%	30%
Janice St	De Forest Av	Elm St	S	34	26%	26%	32%	26%	32%	29%	35%	35%
			N	34	21%	15%	9%	6%	12%	18%	26%	35%
Smith St	De Forest Av	Elm St	S	39	36%	36%	33%	31%	33%	26%	38%	41%
			N	40	20%	23%	18%	20%	28%	30%	23%	23%
61st St	De Forest Av	Elm St	S	44	36%	30%	34%	34%	34%	32%	25%	36%
			N	44	23%	20%	25%	23%	27%	20%	27%	25%
Adair St	60th St	Jaymills Av	S	29	21%	24%	28%	24%	21%	28%	31%	41%
			N	32	22%	16%	16%	19%	19%	22%	22%	28%
60th St	De Forest Av	Jaymills Av	S	31	0%	3%	0%	6%	6%	13%	13%	16%
			N	30	30%	17%	17%	17%	20%	17%	20%	20%
Osgood St	De Forest Av	Jaymills Av	S	28	29%	21%	21%	25%	29%	36%	39%	46%
			N	30	17%	20%	27%	23%	30%	17%	20%	33%
59th St	De Forest Av	Jaymills Av	S	29	21%	17%	10%	14%	24%	21%	21%	28%
			N	30	13%	17%	30%	30%	27%	30%	33%	37%
Hullett St	59th St	Jaymills Av	S	32	9%	6%	6%	6%	3%	9%	16%	16%
			N	32	25%	25%	28%	28%	28%	25%	25%	31%
Hullett Turn	Hullett St	End	E	6	33%	33%	33%	33%	17%	33%	50%	50%
			W	6	50%	50%	50%	50%	50%	50%	50%	50%
South St	De Forest Av	Jaymills Av	S	0	---	---	---	---	---	---	---	---
			N	0	---	---	---	---	---	---	---	---
Cedar Av	De Forest Av	Jaymills Av	S	25	8%	8%	4%	4%	0%	4%	4%	8%
			N	26	8%	15%	12%	12%	15%	19%	23%	23%
Cedar Turn	Cedar Av	South St	S	11	18%	18%	18%	18%	27%	27%	36%	36%
			N	11	0%	0%	0%	9%	9%	9%	9%	18%
Chestnut Av	De Forest Av	Jaymills Av	E	19	21%	47%	11%	26%	32%	47%	53%	63%
			W	16	44%	13%	44%	56%	50%	56%	50%	63%
	Jaymills Av	57th St	E	0	---	---	---	---	---	---	---	---
			W	11	36%	36%	36%	36%	36%	36%	36%	36%
	57th St	56th St	E	0	---	---	---	---	---	---	---	---
			W	8	50%	25%	38%	25%	25%	25%	50%	38%
	56th St	Ellis St	E	0	---	---	---	---	---	---	---	---
			W	8	50%	63%	63%	38%	75%	75%	88%	88%
	Ellis St	55th St	E	0	---	---	---	---	---	---	---	---
			W	9	56%	67%	67%	67%	67%	67%	89%	89%
57th St	Chestnut Av	Norton St	E	5	0%	0%	0%	0%	0%	20%	20%	20%
			W	4	0%	25%	25%	25%	25%	25%	50%	75%
	Norton St	Lester St/57th St	E	17	24%	35%	29%	29%	29%	35%	29%	41%
			W	18	22%	44%	50%	33%	39%	56%	44%	50%
Lester St	57th St	Jaymills Av	E	4	50%	25%	25%	25%	25%	25%	25%	25%
			W	3	33%	0%	33%	33%	33%	33%	33%	33%
De Forest Av	Chestnut Av	Cedar Av	E	7	0%	0%	0%	0%	0%	0%	0%	0%
			W	10	20%	10%	0%	10%	10%	0%	20%	30%
	Cedar Av	South St	E	6	0%	0%	0%	0%	0%	0%	0%	0%
			W	9	0%	0%	0%	0%	0%	11%	22%	22%
	South St	59th St	E	18	6%	0%	0%	0%	0%	0%	0%	0%
			W	19	0%	5%	0%	0%	0%	11%	5%	5%
	59th St	Osgood St	E	10	0%	0%	0%	0%	0%	0%	10%	0%
			W	12	0%	8%	17%	17%	8%	0%	17%	25%
	Osgood St	60th St	E	10	0%	0%	0%	10%	0%	0%	0%	0%
			W	12	8%	0%	0%	17%	8%	25%	58%	42%
	60th St	61st St	E	12	0%	17%	0%	8%	0%	8%	0%	0%
			W	15	7%	7%	7%	0%	0%	7%	20%	13%
	61st St	Smith St	E	11	0%	0%	0%	0%	0%	9%	0%	9%
			W	14	0%	7%	0%	0%	0%	7%	7%	14%
	Smith St	Janice St	E	11	9%	0%	0%	0%	0%	0%	0%	0%
			W	12	0%	8%	8%	8%	17%	8%	0%	8%
	Janice St	Harding St	E	11	0%	0%	0%	0%	0%	0%	0%	0%
			W	14	0%	0%	0%	0%	0%	7%	0%	0%
	Harding St	Poppy St	E	10	0%	0%	10%	0%	10%	10%	0%	10%
			W	13	0%	0%	23%	15%	15%	23%	0%	8%
	Poppy St	63rd St	E	11	9%	9%	9%	9%	9%	9%	18%	9%
			W	18	0%	0%	6%	0%	11%	0%	6%	0%



**Table E-2 (Continued): Weekday Parking Utilization - Section 1 (Thursday, April 7, 2005) - Percentage Occupied**

Segment	From	To	Side	Capacity	Occupancy							
					12:00 to 1:00 - % Occupied	1:00 to 2:00 - % Occupied	2:00 to 3:00 - % Occupied	3:00 to 4:00 - % Occupied	4:00 to 5:00 - % Occupied	5:00 to 6:00 - % Occupied	6:00 to 7:00 - % Occupied	7:00 to 8:00 - % Occupied
Elm St	End	63rd St	E	5	0%	20%	20%	20%	20%	20%	20%	20%
			W	4	25%	25%	25%	25%	25%	25%	25%	25%
	63rd St	Poppy St	E	7	0%	14%	0%	14%	14%	14%	14%	29%
			W	7	14%	14%	0%	0%	0%	0%	14%	14%
	Poppy St	Harding St	E	7	0%	0%	0%	0%	0%	0%	14%	14%
			W	7	14%	14%	14%	29%	29%	14%	14%	43%
	Harding St	Janice St	E	7	14%	14%	14%	14%	14%	14%	14%	14%
			W	7	0%	0%	0%	0%	0%	0%	0%	0%
	Janice St	Smith St	E	8	13%	0%	0%	0%	13%	13%	0%	0%
			W	8	0%	25%	25%	25%	38%	25%	25%	38%
	Smith St	61st St	E	8	0%	0%	13%	0%	0%	0%	0%	13%
			W	8	0%	0%	0%	0%	25%	13%	13%	25%
Jaymills Av	61st St	Adair St	E	8	25%	38%	38%	38%	25%	25%	25%	38%
			W	10	10%	0%	0%	0%	0%	10%	0%	20%
	Adair St	Adair St	E	7	0%	0%	0%	0%	100%	14%	14%	14%
			W	7	29%	43%	43%	29%	43%	57%	57%	57%
	Adair St	60th St	E	5	20%	20%	0%	0%	0%	0%	0%	20%
			W	7	14%	0%	0%	0%	0%	29%	29%	43%
	60th St	60th St	E	4	0%	25%	25%	25%	0%	25%	25%	25%
			W	3	0%	0%	0%	33%	33%	33%	33%	33%
	60th St	Osgood St	E	9	0%	0%	0%	0%	0%	0%	0%	0%
			W	8	0%	13%	25%	25%	13%	38%	50%	50%
	Osgood St	59th St	E	9	33%	0%	0%	0%	0%	0%	0%	22%
			W	9	11%	11%	11%	11%	11%	11%	22%	11%
	59th St	Hullett St	E	9	11%	0%	11%	0%	11%	0%	0%	11%
			W	9	22%	0%	0%	0%	0%	0%	11%	22%
	Hullett St	South St	E	9	22%	22%	33%	22%	11%	33%	33%	44%
			W	9	0%	0%	0%	0%	0%	0%	0%	0%
	South St	Lester St	E	12	50%	42%	42%	50%	58%	50%	33%	58%
			W	12	42%	42%	42%	33%	42%	33%	42%	50%
	Lester St	Cedar Av	E	9	11%	11%	11%	11%	22%	0%	0%	22%
			W	9	22%	22%	22%	22%	33%	22%	22%	33%
	Cedar Av	Chestnut Av	E	11	36%	55%	45%	45%	45%	36%	36%	55%
			W	9	0%	22%	11%	0%	0%	0%	0%	22%
56th St	Long Beach Bl	Chestnut Av	S	23	0%	0%	0%	0%	0%	0%	0%	0%
			N	20	60%	65%	60%	55%	70%	80%	95%	95%
Ellis Av	Long Beach Bl	Chestnut Av	S	20	85%	80%	65%	75%	85%	85%	95%	100%
			N	17	0%	6%	0%	6%	0%	0%	0%	0%
55th St	Long Beach Bl	Chestnut Av	S	18	56%	56%	61%	56%	50%	67%	83%	89%
			N	18	61%	67%	61%	61%	67%	67%	78%	78%
Long Beach Bl	I-710 E Ramps	56th St	E	0	---	---	---	---	---	---	---	---
			W	0	---	---	---	---	---	---	---	---
	56th St	Ellis St	E	0	---	---	---	---	---	---	---	---
			W	4	0%	100%	50%	50%	50%	25%	25%	50%
	Ellis St	55th St	E	5	60%	20%	40%	20%	80%	40%	40%	40%
			W	0	---	---	---	---	---	---	---	---
	55th St	Louise St	E	11	27%	9%	45%	55%	36%	36%	55%	45%
			W	9	0%	22%	22%	11%	22%	33%	33%	44%
	Louise St	Market St	E	5	80%	40%	120%	120%	80%	20%	100%	80%
			W	7	57%	43%	57%	100%	57%	71%	71%	71%
Parking Lot	De Forest Park			36	6%	3%	3%	6%	6%	11%	8%	11%
Total available spaces:				1,607								
Percentage of spaces occupied:					17%	16%	17%	17%	19%	19%	22%	26%
Total spaces occupied:					278	265	268	274	301	311	358	425

Note: Where no striped spaces exist, 22' provided per space unless observations in a particular segment indicated a higher usage



**Table E-3: Weekday Parking Utilization - Section 2 (Thursday, April 7, 2005)**

Segment	From	To	Side	Capacity	Occupancy								
					12:00 to 1:00	1:00 to 2:00	2:00 to 3:00	3:00 to 4:00	4:00 to 5:00	5:00 to 6:00	6:00 to 7:00	7:00 to 8:00	
Louise St	End	Pacific Av	S	12	5	4	6	6	5	8	9	9	
			N	14	7	7	5	6	6	8	8	9	
	Pacific Av	Long Beach Bl	S	14	6	5	5	8	7	7	7	8	
			N	15	4	6	7	5	7	7	8	8	
Market St	End	Pacific Av	S	19	10	11	12	12	16	16	16	17	
			N	24	15	15	15	18	17	21	21	21	
Plymouth St	End	Pacific Av	S	21	16	12	12	13	16	12	15	16	
			N	25	13	11	18	17	18	18	18	18	
53rd St	End	Pacific Av	S	23	5	4	6	8	6	10	10	10	
			N	25	8	10	11	10	9	10	11	11	
Mountain View St	End	Pacific Av	S	26	19	21	22	22	21	25	25	27	
			N	28	20	16	11	14	15	18	18	20	
Pacific Av	Louise St	Market St	E	8	3	3	5	3	3	4	4	4	
			W	8	1	1	1	2	3	3	4	5	
	Market St	Plymouth St	E	10	4	4	4	6	4	5	6	6	
			W	11	6	6	5	6	6	6	6	6	
	Plymouth St	53rd St	E	10	3	4	4	3	3	4	3	3	
			W	10	5	4	6	6	6	7	7	7	
	53rd St	Mountain View St	E	7	3	2	3	3	3	3	3	3	
			W	6	1	1	1	1	1	0	1	1	
	Mountain View St	52nd St	E	13	8	7	9	8	8	10	10	10	
			W	14	5	6	5	7	8	8	8	9	
52nd St	52nd St	51st St	E	18	4	6	7	11	10	10	10	10	
			W	21	12	11	10	8	11	13	13	14	
	51st St	Home St	E	8	1	6	4	2	3	4	6	6	
			W	8	1	5	2	1	1	1	3	3	
	Home St	Del Amo Bl	E	11	8	9	8	3	4	5	6	8	
			W	11	3	6	7	4	5	5	7	7	
52nd St	End	De Forest Av	S	0	0	0	0	0	0	0	0	0	
			N	3	3	2	2	3	2	1	2	3	
	De Forest Av	Daisy Av	S	19	10	12	12	10	10	11	14	15	
			N	20	10	11	13	13	15	15	15	15	
	Daisy Av	Pacific Av	S	6	1	1	0	0	0	0	1	2	
			N	6	2	2	1	1	2	2	2	2	
	Pacific Av	Pacific Av	S	7	1	2	2	2	2	2	3	3	
			N	3	1	2	2	2	3	3	3	3	
	Zane St	De Forest Av	Daisy Av	S	21	9	10	11	8	9	10	10	10
				N	22	7	7	8	6	5	10	10	10
51st St	De Forest Av	Daisy Av	S	20	6	11	6	7	9	8	9	10	
			N	21	6	13	9	9	9	10	12	12	
	Daisy Av	Pacific Av	S	7	3	5	4	3	4	5	5	5	
			N	7	4	5	3	2	2	2	3	5	
Home St	End	Daisy Av	S	0	0	0	0	0	0	0	0	0	
			N	0	0	0	0	0	0	0	0	0	
	Daisy Av	Pacific Av	S	4	1	2	1	0	0	0	0	0	
			N	4	4	4	2	1	0	0	0	0	
Daisy Av	52nd St	Zane St	E	11	4	4	3	2	3	4	4	4	
			W	9	6	6	7	6	6	7	7	7	
	Zane St	51st St	E	10	3	6	5	1	1	1	2	4	
			W	9	3	7	8	3	4	3	5	8	
	51st St	Home St	E	0	0	0	0	0	0	0	0	0	
			W	2	2	2	2	1	1	1	1	1	
	Home St	Home St	E	9	5	8	9	4	4	2	1	1	
			W	3	0	1	3	0	0	0	0	0	
Del Amo Bl	Home St	Del Amo Bl	E	10	8	8	10	5	2	1	0	0	
			W	9	0	0	12	2	0	0	0	0	
	I-710 E Ramps	Oregon Av	S	0	0	0	0	0	0	0	0	0	
			N	0	0	0	0	0	0	0	0	0	
Oregon Av	Oregon Av	Daisy Av	S	8	5	5	4	2	4	4	5	5	
			N	0	0	0	0	0	0	0	0	0	
	Daisy Av	Pacific Av	S	0	0	0	2	0	0	0	0	0	
			N	5	5	5	5	5	5	5	5	5	
	De Forest Av	52nd St	Zane St	E	10	2	2	2	2	2	2	2	2
				W	12	0	0	0	0	0	0	0	0
Zane St		51st St	E	11	0	0	0	0	0	0	0	0	
			W	14	0	0	0	0	0	0	0	0	
Total available spaces:				722									
Percentage of spaces occupied:					43%	48%	50%	43%	45%	49%	53%	57%	
Total spaces occupied:					307	346	359	313	326	357	384	408	

Note: Where no striped spaces exist, 22' provided per space unless observations in a particular segment indicated a higher usage

**Table E-4: Weekday Parking Utilization - Section 2 (Thursday, April 7, 2005) - Percentage Occupied**

Segment	From	To	Side	Capacity	Occupancy							
					12:00 to 1:00 - % Occupied	1:00 to 2:00 - % Occupied	2:00 to 3:00 - % Occupied	3:00 to 4:00 - % Occupied	4:00 to 5:00 - % Occupied	5:00 to 6:00 - % Occupied	6:00 to 7:00 - % Occupied	7:00 to 8:00 - % Occupied
Louise St	End	Pacific Av	S	12	42%	33%	50%	50%	42%	67%	75%	75%
			N	14	50%	50%	36%	43%	43%	57%	57%	64%
	Pacific Av	Long Beach Bl	S	14	43%	36%	36%	57%	50%	50%	50%	57%
			N	15	27%	40%	47%	33%	47%	47%	53%	53%
Market St	End	Pacific Av	S	19	53%	58%	63%	63%	84%	84%	84%	89%
			N	24	63%	63%	63%	75%	71%	88%	88%	88%
Plymouth St	End	Pacific Av	S	21	76%	57%	57%	62%	76%	57%	71%	76%
			N	25	52%	44%	72%	68%	72%	72%	72%	72%
53rd St	End	Pacific Av	S	23	22%	17%	26%	35%	26%	43%	43%	43%
			N	25	32%	40%	44%	40%	36%	40%	44%	44%
Mountain View St	End	Pacific Av	S	26	73%	81%	85%	85%	81%	96%	96%	104%
			N	28	71%	57%	39%	50%	54%	64%	64%	71%
Pacific Av	Louise St	Market St	E	8	38%	38%	63%	38%	38%	50%	50%	50%
			W	8	13%	13%	13%	25%	38%	38%	50%	63%
	Market St	Plymouth St	E	10	40%	40%	40%	60%	40%	50%	60%	60%
			W	11	55%	55%	45%	55%	55%	55%	55%	55%
	Plymouth St	53rd St	E	10	30%	40%	40%	30%	30%	40%	30%	30%
			W	10	50%	40%	60%	60%	60%	70%	70%	70%
	53rd St	Mountain View St	E	7	43%	29%	43%	43%	43%	43%	43%	43%
			W	6	17%	17%	17%	17%	17%	0%	17%	17%
	Mountain View St	52nd St	E	13	62%	54%	69%	62%	62%	77%	77%	77%
			W	14	36%	43%	36%	50%	57%	57%	57%	64%
	52nd St	51st St	E	18	22%	33%	39%	61%	56%	56%	56%	56%
			W	21	57%	52%	48%	38%	52%	62%	62%	67%
	51st St	Home St	E	8	13%	75%	50%	25%	38%	50%	75%	75%
			W	8	13%	63%	25%	13%	13%	13%	38%	38%
	Home St	Del Amo Bl	E	11	73%	82%	73%	27%	36%	45%	55%	73%
			W	11	27%	55%	64%	36%	45%	45%	64%	64%
52nd St	End	De Forest Av	S	0	---	---	---	---	---	---	---	---
			N	3	100%	67%	67%	100%	67%	33%	67%	100%
	De Forest Av	Daisy Av	S	19	53%	63%	63%	53%	53%	58%	74%	79%
			N	20	50%	55%	65%	65%	75%	75%	75%	75%
	Daisy Av	Pacific Av	S	6	17%	17%	0%	0%	0%	0%	17%	33%
			N	6	33%	33%	17%	17%	33%	33%	33%	33%
	Pacific Av	Pacific Av	S	7	14%	29%	29%	29%	29%	29%	43%	43%
			N	3	33%	67%	67%	67%	100%	100%	100%	100%
Zane St	De Forest Av	Daisy Av	S	21	43%	48%	52%	38%	43%	48%	48%	48%
			N	22	32%	32%	36%	27%	23%	45%	45%	45%
51st St	De Forest Av	Daisy Av	S	20	30%	55%	30%	35%	45%	40%	45%	50%
			N	21	29%	62%	43%	43%	43%	48%	57%	57%
	Daisy Av	Pacific Av	S	7	43%	71%	57%	43%	57%	71%	71%	71%
			N	7	57%	71%	43%	29%	29%	29%	43%	71%
Home St	End	Daisy Av	S	0	---	---	---	---	---	---	---	---
			N	0	---	---	---	---	---	---	---	---
	Daisy Av	Pacific Av	S	4	25%	50%	25%	0%	0%	0%	0%	0%
			N	4	100%	100%	50%	25%	0%	0%	0%	0%
Daisy Av	52nd St	Zane St	E	11	36%	36%	27%	18%	27%	36%	36%	36%
			W	9	67%	67%	78%	67%	67%	78%	78%	78%
	Zane St	51st St	E	10	30%	60%	50%	10%	10%	10%	20%	40%
			W	9	33%	78%	89%	33%	44%	33%	56%	89%
	51st St	Home St	E	0	---	---	---	---	---	---	---	---
			W	2	100%	100%	100%	50%	50%	50%	50%	50%
	Home St	Home St	E	9	56%	89%	100%	44%	44%	22%	11%	11%
			W	3	0%	33%	100%	0%	0%	0%	0%	0%
	Home St	Del Amo Bl	E	10	80%	80%	100%	50%	20%	10%	0%	0%
			W	9	0%	0%	133%	22%	0%	0%	0%	0%
Del Amo Bl	I-710 E Ramps	Oregon Av	S	0	---	---	---	---	---	---	---	---
			N	0	---	---	---	---	---	---	---	---
	Oregon Av	Daisy Av	S	8	63%	63%	50%	25%	50%	50%	63%	63%
			N	0	---	---	---	---	---	---	---	---
	Daisy Av	Pacific Av	S	0	---	---	---	---	---	---	---	---
			N	5	100%	100%	100%	100%	100%	100%	100%	100%
De Forest Av	52nd St	Zane St	E	10	20%	20%	20%	20%	20%	20%	20%	20%
			W	12	0%	0%	0%	0%	0%	0%	0%	0%
	Zane St	51st St	E	11	0%	0%	0%	0%	0%	0%	0%	0%
			W	14	0%	0%	0%	0%	0%	0%	0%	0%
Total available spaces:				722								
Percentage of spaces occupied:					43%	48%	50%	43%	45%	49%	53%	57%
Total spaces occupied:					307	346	359	313	326	357	384	408

Note: Where no striped spaces exist, 22' provided per space unless observations in a particular segment indicated a higher usage

**Table E-5: Weekday Parking Utilization - Section 3 (Thursday, April 7, 2005)**

Segment	From	To	Side	Capacity	Occupancy							
					12:00 to 1:00	1:00 to 2:00	2:00 to 3:00	3:00 to 4:00	4:00 to 5:00	5:00 to 6:00	6:00 to 7:00	7:00 to 8:00
Section 3a												
Oregon Av	Del Amo Bl	49th St	E	21	10	13	12	11	10	8	10	10
			W	22	12	9	8	9	9	10	11	10
	49th St	48th St	E	0	0	0	0	1	1	0	0	
			W	5	0	0	0	2	3	5	0	0
	48th St	End	E	2	0	0	0	0	1	1	1	1
W			7	2	2	1	2	3	2	2	2	
Daisy Av	Del Amo Bl	49th St	E	18	11	12	12	12	13	16	13	15
			W	17	10	11	7	9	9	10	11	11
	49th St	48th St	E	20	6	9	9	8	9	11	11	11
			W	22	6	7	5	8	9	8	9	9
	48th St	End	E	8	2	2	3	2	3	3	3	3
W			7	1	0	1	3	3	3	3	3	
Pacific Av	Del Amo Bl	49th St	E	17	7	6	6	6	6	6	6	7
			W	19	8	10	10	10	11	10	10	11
	49th St	48th St	E	18	7	7	6	6	8	8	8	8
			W	22	8	11	12	10	11	12	12	12
	48th St	End	E	15	4	4	4	7	8	7	7	8
W			11	11	9	11	12	12	12	12	12	
49th St	Oregon Av	Daisy Av	S	9	3	3	4	3	4	6	5	5
			N	8	3	2	4	2	3	4	4	4
	Daisy Av	Pacific Av	S	6	3	3	2	3	2	2	3	3
			N	9	2	0	2	1	2	3	3	3
48th St	End	Oregon Av	S	14	5	3	3	4	6	8	10	11
			N	13	0	1	1	2	2	3	4	4
	Oregon Av	Daisy Av	S	8	4	5	3	3	3	4	5	5
			N	8	1	4	2	1	1	0	2	4
	Daisy Av	Pacific Av	S	8	1	2	3	5	4	6	6	6
			N	9	0	3	0	0	0	1	3	2
Section 3b												
Carson St	Via Oro Av	Via Alcalde Av	S	0	0	0	0	0	0	0	0	0
			N	0	0	0	0	0	0	0	0	0
	Via Alcalde Av	End	S	0	0	0	0	0	0	0	0	0
			N	0	0	0	0	0	0	0	0	0
Total available spaces:				343								
Percentage of spaces occupied:					37%	40%	38%	41%	45%	50%	51%	52%
Total spaces occupied:					127	138	131	139	156	170	174	180

Note: Where no striped spaces exist, 22' provided per space unless observations in a particular segment indicated a higher usage

**Table E-6: Weekday Parking Utilization - Section 3 (Thursday, April 7, 2005) - Percentage Occupied**

Segment	From	To	Side	Capacity	12:00 to	1:00 to	2:00 to	3:00 to	4:00 to	5:00 to	6:00 to	7:00 to
					1:00 - % Occupied	2:00 - % Occupied	3:00 - % Occupied	4:00 - % Occupied	5:00 - % Occupied	6:00 - % Occupied	7:00 - % Occupied	8:00 - % Occupied
Section 3a												
Oregon Av	Del Amo Bl	49th St	E	21	48%	62%	57%	52%	48%	38%	48%	48%
			W	22	55%	41%	36%	41%	41%	45%	50%	45%
	49th St	48th St	E	0	---	---	---	---	---	---	---	---
	48th St	End	W	5	0%	0%	0%	40%	60%	100%	0%	0%
			E	2	0%	0%	0%	0%	50%	50%	50%	50%
Daisy Av	Del Amo Bl	49th St	W	7	29%	29%	14%	29%	43%	29%	29%	29%
			E	18	61%	67%	67%	67%	72%	89%	72%	83%
	49th St	48th St	W	17	59%	65%	41%	53%	53%	59%	65%	65%
			E	20	30%	45%	45%	40%	45%	55%	55%	55%
	48th St	End	W	22	27%	32%	23%	36%	41%	38%	41%	41%
E			8	25%	25%	38%	25%	38%	38%	38%	38%	
Pacific Av	Del Amo Bl	49th St	W	7	14%	0%	14%	14%	43%	43%	43%	43%
			E	17	41%	35%	35%	35%	35%	35%	35%	41%
	49th St	48th St	W	19	42%	53%	53%	53%	58%	53%	53%	58%
			E	18	39%	39%	33%	33%	44%	44%	44%	44%
	48th St	End	W	22	36%	50%	55%	45%	50%	55%	55%	55%
E			15	27%	27%	27%	47%	53%	47%	47%	53%	
49th St	Oregon Av	Daisy Av	W	11	100%	82%	100%	109%	109%	109%	109%	109%
			S	9	33%	33%	44%	33%	44%	67%	56%	56%
	Daisy Av	Pacific Av	N	8	38%	25%	50%	25%	38%	50%	50%	50%
			S	6	50%	50%	33%	50%	33%	33%	50%	50%
	48th St	End	Oregon Av	N	9	22%	0%	22%	11%	22%	33%	33%
S				14	36%	21%	21%	29%	43%	57%	71%	79%
	Oregon Av	Daisy Av	N	13	0%	8%	8%	15%	15%	23%	31%	31%
			S	8	50%	63%	38%	38%	38%	50%	63%	63%
	Daisy Av	Pacific Av	N	8	13%	50%	25%	13%	13%	0%	25%	50%
			S	8	13%	25%	38%	63%	50%	75%	75%	75%
				N	9	0%	33%	0%	0%	0%	11%	33%
Section 3b												
Carson St	Via Oro Av	Via Alcalde Av	S	0	---	---	---	---	---	---	---	---
			N	0	---	---	---	---	---	---	---	---
	Via Alcalde Av	End	S	0	---	---	---	---	---	---	---	---
			N	0	---	---	---	---	---	---	---	---
Total available spaces:				343								
Percentage of spaces occupied:					37%	40%	38%	41%	45%	50%	51%	52%
Total spaces occupied:					127	138	131	139	156	170	174	180

Note: Where no striped spaces exist, 22' provided per space unless observations in a particular segment indicated a higher usage



Table E-7: Weekend Parking Utilization - Section 1 (Saturday, April 9, 2005)

Segment	From	To	Side	Capacity	Occupancy							
					12:00 to 1:00	1:00 to 2:00	2:00 to 3:00	3:00 to 4:00	4:00 to 5:00	5:00 to 6:00	6:00 to 7:00	7:00 to 8:00
63rd St	De Forest Av	Elm St	S	17	2	1	1	1	3	2	2	2
			N	18	1	3	1	1	3	3	2	2
Poppy St	De Forest Av	Elm St	S	23	7	8	8	7	8	9	10	9
			N	23	8	9	8	7	16	13	14	15
Harding St	De Forest Av	Elm St	S	29	8	10	11	10	14	14	13	13
			N	27	12	12	11	12	12	13	12	11
Janice St	De Forest Av	Elm St	S	34	11	14	15	13	14	15	13	15
			N	34	10	11	9	9	7	8	8	8
Smith St	De Forest Av	Elm St	S	39	14	16	17	20	22	22	24	24
			N	40	15	16	17	17	20	22	22	23
61st St	De Forest Av	Elm St	S	44	14	19	18	21	20	22	26	26
			N	44	17	16	18	16	18	21	21	21
Adair St	60th St	Jaymills Av	S	29	9	7	8	9	8	11	9	10
			N	32	8	9	10	9	10	13	11	12
60th St	De Forest Av	Jaymills Av	S	31	6	7	8	7	6	7	7	8
			N	30	6	8	8	7	9	10	7	8
Osgood St	De Forest Av	Jaymills Av	S	28	10	10	12	15	13	14	15	14
			N	30	11	10	10	11	14	13	17	15
59th St	De Forest Av	Jaymills Av	S	29	10	15	10	9	11	11	11	12
			N	30	14	14	13	12	14	16	15	16
Hullett St	59th St	Jaymills Av	S	32	8	7	6	8	10	13	16	16
			N	32	14	12	10	13	13	13	16	15
Hullett Turn	Hullett St	End	E	6	0	0	0	0	0	0	0	0
			W	6	3	3	3	3	3	3	4	4
South St	De Forest Av	Jaymills Av	S	0	0	0	0	0	0	0	0	0
			N	0	0	0	0	0	0	0	0	0
Cedar Av	De Forest Av	Jaymills Av	S	25	4	4	7	6	5	6	5	6
			N	26	5	4	6	3	6	9	9	8
Cedar Turn	Cedar Av	South St	S	11	2	3	2	2	3	4	3	3
			N	11	0	0	0	0	0	1	1	1
Chestnut Av	De Forest Av	Jaymills Av	E	19	8	8	6	7	7	9	10	10
			W	16	8	8	9	9	9	9	12	11
	Jaymills Av	57th St	E	0	0	0	0	0	0	0	0	0
			W	11	5	4	6	6	8	10	11	10
	57th St	56th St	E	0	0	1	1	0	0	0	0	0
			W	8	4	5	5	7	7	7	8	8
	56th St	Ellis St	E	0	0	0	0	0	0	0	0	0
			W	8	5	5	6	6	6	8	7	8
	Ellis St	55th St	E	0	2	0	0	0	0	2	1	0
			W	9	8	8	6	7	8	8	9	9
57th St	Chestnut Av	Norton St	E	5	4	1	1	2	2	1	2	3
			W	4	2	3	4	4	2	2	2	3
	Norton St	Lester St/57th St	E	17	6	6	7	9	9	11	13	13
			W	18	4	6	5	6	7	10	12	11
Lester St	57th St	Jaymills Av	E	4	2	1	1	2	2	2	1	1
			W	3	0	1	1	1	0	0	0	0
De Forest Av	Chestnut Av	Cedar Av	E	7	0	0	0	0	0	0	0	0
			W	10	1	3	1	1	1	1	2	2
	Cedar Av	South St	E	6	0	0	0	0	0	0	0	0
			W	9	0	1	1	0	0	1	0	0
	South St	59th St	E	18	5	1	1	1	1	1	1	1
			W	19	3	1	0	0	2	1	1	0
	59th St	Osgood St	E	10	0	0	0	0	0	0	1	0
			W	12	1	1	2	2	0	2	0	1
	Osgood St	60th St	E	10	0	0	0	0	0	0	0	0
			W	12	1	0	2	1	4	3	1	0
	60th St	61st St	E	12	2	2	2	2	3	0	1	0
			W	15	1	5	5	5	4	1	2	1
	61st St	Smith St	E	11	1	3	5	6	5	1	0	1
			W	14	2	7	7	9	6	2	2	2
	Smith St	Janice St	E	11	0	3	7	11	8	0	0	0
			W	12	3	8	11	11	10	3	2	1
	Janice St	Harding St	E	11	0	0	0	0	0	0	0	0
			W	14	0	0	1	4	3	0	0	0
	Harding St	Poppy St	E	10	3	5	3	8	9	8	0	0
			W	13	7	7	7	9	9	10	1	0
	Poppy St	63rd St	E	11	3	4	3	2	4	5	0	0
			W	18	2	4	4	8	7	13	1	0

**Table E-7 (Continued): Weekday Parking Utilization - Section 1 (Saturday, April 9, 2005)**

Segment	From	To	Side	Capacity	Occupancy								
					12:00 to 1:00	1:00 to 2:00	2:00 to 3:00	3:00 to 4:00	4:00 to 5:00	5:00 to 6:00	6:00 to 7:00	7:00 to 8:00	
Elm St	End	63rd St	E	5	2	1	1	1	1	2	2	2	
			W	4	1	1	1	2	2	2	2		
	63rd St	Poppy St	E	7	2	2	2	2	1	2	2	2	
			W	7	1	0	0	0	0	0	0	0	
	Poppy St	Harding St	E	7	3	2	1	1	1	1	1	1	
			W	7	3	2	2	2	2	3	2		
	Harding St	Janice St	E	7	1	0	1	1	1	1	1	1	
			W	7	0	0	0	0	1	2	2		
	Janice St	Smith St	E	8	1	0	0	1	0	0	0	0	
			W	8	2	0	0	1	3	4	5	5	
Jaymills Av	Smith St	61st St	E	8	0	0	0	0	0	2	1	1	
			W	8	0	0	1	2	0	0	1	1	
	61st St	Adair St	E	8	0	0	1	1	0	0	0	0	
			W	10	0	1	2	0	2	1	1	1	
	Adair St	Adair St	E	7	0	0	1	1	5	5	1	1	
			W	7	4	4	5	6	8	7	7	6	
	Adair St	60th St	E	5	2	2	3	2	3	4	3	4	
			W	7	2	2	2	2	3	2	2	2	
	60th St	60th St	E	4	1	1	2	1	1	1	2	2	
			W	3	1	1	2	1	1	1	1	1	
Jaymills Av	60th St	Osgood St	E	9	0	0	0	0	0	2	4	3	
			W	8	1	0	1	1	3	3	2	3	
	Osgood St	59th St	E	9	2	1	1	1	1	1	1	1	
			W	9	2	2	2	2	1	1	1	1	
	59th St	Hullett St	E	9	3	3	3	2	1	1	1	1	
			W	9	1	1	1	1	1	1	1	1	
	Hullett St	South St	E	9	2	3	3	3	4	3	3	3	
			W	9	0	1	0	0	2	0	0	0	
	South St	Lester St	E	12	2	2	3	3	4	3	2	2	
			W	12	5	5	5	5	5	7	6		
Jaymills Av	Lester St	Cedar Av	E	9	1	2	2	3	3	4	4	4	
			W	9	2	2	1	2	4	4	6	5	
	Cedar Av	Chestnut Av	E	11	4	3	4	6	7	7	7	7	
			W	9	3	3	3	3	4	5	5	5	
	56th St	Long Beach Bl	Chestnut Av	S	23	0	0	0	0	1	0	0	1
				N	20	10	9	7	6	10	9	15	15
	Ellis Av	Long Beach Bl	Chestnut Av	S	20	19	17	18	15	16	19	20	20
				N	17	0	0	0	0	0	0	2	1
	55th St	Long Beach Bl	Chestnut Av	S	18	14	14	15	15	15	15	15	15
				N	18	15	14	15	16	16	15	18	18
Long Beach Bl	I-710 E Ramps	56th St	E	0	0	0	0	0	0	0	0	0	
			W	0	0	0	0	0	0	0	0	0	
	56th St	Ellis St	E	0	0	0	0	0	0	0	0	0	
			W	4	3	3	3	4	4	3	4	4	
	Ellis St	55th St	E	5	4	3	4	3	3	2	1	3	
			W	0	0	0	0	0	0	0	0	0	
	55th St	Louise St	E	11	5	5	7	9	8	5	7	7	
			W	9	2	2	3	3	4	4	4	4	
	Louise St	Market St	E	5	4	3	4	3	1	5	0	2	
			W	7	5	5	7	7	7	7	6	6	
Parking Lot	De Forest Park			36	5	1	1	3	8	3	5	4	
Total available spaces:				1,607									
Percentage of spaces occupied:					24%	24%	25%	25%	29%	31%	33%	35%	
Total spaces occupied:					388	391	400	406	469	502	528	565	

Note: Where no striped spaces exist, 22' provided per space unless observations in a particular segment indicated a higher usage

Table E-8: Weekend Parking Utilization - Section 1 (Saturday, April 9, 2005) - Percentage Occupied

Segment	From	To	Side	Capacity	Occupancy							
					12:00 to 1:00 - % Occupied	1:00 to 2:00 - % Occupied	2:00 to 3:00 - % Occupied	3:00 to 4:00 - % Occupied	4:00 to 5:00 - % Occupied	5:00 to 6:00 - % Occupied	6:00 to 7:00 - % Occupied	7:00 to 8:00 - % Occupied
63rd St	De Forest Av	Elm St	S	17	12%	6%	6%	6%	18%	12%	12%	12%
			N	18	6%	17%	6%	6%	17%	17%	11%	11%
Poppy St	De Forest Av	Elm St	S	23	30%	35%	35%	30%	35%	39%	43%	39%
			N	23	35%	39%	35%	30%	70%	57%	61%	65%
Harding St	De Forest Av	Elm St	S	29	28%	34%	38%	34%	48%	48%	45%	45%
			N	27	44%	44%	41%	44%	44%	48%	44%	41%
Janice St	De Forest Av	Elm St	S	34	32%	41%	44%	38%	41%	44%	38%	44%
			N	34	29%	32%	26%	26%	21%	24%	24%	24%
Smith St	De Forest Av	Elm St	S	39	36%	41%	44%	51%	56%	56%	62%	62%
			N	40	38%	40%	43%	43%	50%	55%	55%	58%
61st St	De Forest Av	Elm St	S	44	32%	43%	41%	48%	45%	50%	59%	59%
			N	44	39%	36%	41%	36%	41%	48%	48%	48%
Adair St	60th St	Jaymills Av	S	29	31%	24%	28%	31%	28%	38%	31%	34%
			N	32	25%	28%	31%	28%	31%	41%	34%	38%
60th St	De Forest Av	Jaymills Av	S	31	19%	23%	26%	23%	19%	23%	23%	26%
			N	30	20%	27%	27%	23%	30%	33%	23%	27%
Osgood St	De Forest Av	Jaymills Av	S	28	36%	36%	43%	54%	46%	50%	54%	50%
			N	30	37%	33%	33%	37%	47%	43%	57%	50%
59th St	De Forest Av	Jaymills Av	S	29	34%	52%	34%	31%	38%	38%	38%	41%
			N	30	47%	47%	43%	40%	47%	53%	50%	53%
Hullett St	59th St	Jaymills Av	S	32	25%	22%	19%	25%	31%	41%	50%	50%
			N	32	44%	38%	31%	41%	41%	41%	50%	47%
Hullett Turn	Hullett St	End	E	6	0%	0%	0%	0%	0%	0%	0%	0%
			W	6	50%	50%	50%	50%	50%	50%	67%	67%
South St	De Forest Av	Jaymills Av	S	0	---	---	---	---	---	---	---	---
			N	0	---	---	---	---	---	---	---	---
Cedar Av	De Forest Av	Jaymills Av	S	25	16%	16%	28%	24%	20%	24%	20%	24%
			N	26	19%	15%	23%	12%	23%	35%	35%	31%
Cedar Turn	Cedar Av	South St	S	11	18%	27%	18%	18%	27%	36%	27%	27%
			N	11	0%	0%	0%	0%	0%	9%	9%	9%
Chestnut Av	De Forest Av	Jaymills Av	E	19	42%	42%	32%	37%	37%	47%	53%	53%
			W	16	50%	50%	56%	56%	56%	56%	75%	69%
	Jaymills Av	57th St	E	0	---	---	---	---	---	---	---	---
			W	11	45%	36%	55%	55%	73%	91%	100%	91%
	57th St	56th St	E	0	---	---	---	---	---	---	---	---
			W	8	50%	63%	63%	88%	88%	88%	100%	100%
	56th St	Ellis St	E	0	---	---	---	---	---	---	---	---
			W	8	63%	63%	75%	75%	75%	100%	88%	100%
	Ellis St	55th St	E	0	---	---	---	---	---	---	---	---
			W	9	89%	89%	67%	78%	89%	89%	100%	100%
57th St	Chestnut Av	Norton St	E	5	80%	20%	20%	40%	40%	20%	40%	60%
			W	4	50%	75%	100%	100%	50%	50%	50%	75%
	Norton St	Lester St/57th St	E	17	35%	35%	41%	53%	53%	65%	76%	76%
			W	18	22%	33%	28%	33%	39%	56%	67%	61%
Lester St	57th St	Jaymills Av	E	4	50%	25%	25%	50%	50%	50%	25%	25%
			W	3	0%	33%	33%	33%	0%	0%	0%	0%
De Forest Av	Chestnut Av	Cedar Av	E	7	0%	0%	0%	0%	0%	0%	0%	0%
			W	10	10%	30%	10%	10%	10%	10%	20%	20%
	Cedar Av	South St	E	6	0%	0%	0%	0%	0%	0%	0%	0%
			W	9	0%	11%	11%	0%	0%	11%	0%	0%
	South St	59th St	E	18	28%	6%	6%	6%	6%	6%	6%	6%
			W	19	16%	5%	0%	0%	11%	5%	5%	0%
	59th St	Osgood St	E	10	0%	0%	0%	0%	0%	0%	10%	0%
			W	12	8%	8%	17%	17%	0%	17%	0%	8%
	Osgood St	60th St	E	10	0%	0%	0%	0%	0%	0%	0%	0%
			W	12	8%	0%	17%	8%	33%	25%	8%	0%
	60th St	61st St	E	12	17%	17%	17%	17%	25%	0%	8%	0%
			W	15	7%	33%	33%	33%	27%	7%	13%	7%
	61st St	Smith St	E	11	9%	27%	45%	55%	45%	9%	0%	9%
			W	14	14%	50%	50%	64%	43%	14%	14%	14%
	Smith St	Janice St	E	11	0%	27%	64%	100%	73%	0%	0%	0%
			W	12	25%	67%	92%	92%	83%	25%	17%	8%
	Janice St	Harding St	E	11	0%	0%	0%	0%	0%	0%	0%	0%
			W	14	0%	0%	7%	29%	21%	0%	0%	0%
	Harding St	Poppy St	E	10	30%	50%	30%	80%	90%	80%	0%	0%
			W	13	54%	54%	54%	69%	69%	77%	8%	0%
	Poppy St	63rd St	E	11	27%	36%	27%	18%	36%	45%	0%	0%
			W	18	11%	22%	22%	44%	39%	72%	6%	0%

**Table E-8 (Continued): Weekday Parking Utilization - Section 1 (Saturday, April 9, 2005) - Percentage Occupied**

Segment	From	To	Side	Capacity	Occupancy								
					12:00 to 1:00 - % Occupied	1:00 to 2:00 - % Occupied	2:00 to 3:00 - % Occupied	3:00 to 4:00 - % Occupied	4:00 to 5:00 - % Occupied	5:00 to 6:00 - % Occupied	6:00 to 7:00 - % Occupied	7:00 to 8:00 - % Occupied	
Elm St	End	63rd St	E	5	40%	20%	20%	20%	20%	40%	40%	40%	
			W	4	25%	25%	25%	25%	50%	50%	50%	50%	
	63rd St	Poppy St	E	7	29%	29%	29%	29%	14%	29%	29%	29%	
			W	7	14%	0%	0%	0%	0%	0%	0%	0%	
	Poppy St	Harding St	E	7	43%	29%	14%	14%	14%	14%	14%	14%	
			W	7	43%	29%	29%	29%	29%	43%	29%	29%	
	Harding St	Janice St	E	7	14%	0%	14%	14%	14%	14%	14%	14%	
			W	7	0%	0%	0%	0%	0%	14%	29%	29%	
	Janice St	Smith St	E	8	13%	0%	0%	13%	0%	0%	0%	0%	
			W	8	25%	0%	0%	13%	38%	50%	63%	63%	
Jaymills Av	Smith St	61st St	E	8	0%	0%	0%	0%	0%	25%	13%	13%	
			W	8	0%	0%	13%	25%	0%	0%	13%	13%	
	61st St	Adair St	E	8	0%	0%	13%	13%	13%	0%	0%	0%	
			W	10	0%	10%	20%	0%	20%	20%	10%	10%	
	Adair St	Adair St	E	7	0%	0%	14%	14%	71%	71%	14%	14%	
			W	7	57%	57%	71%	86%	114%	100%	100%	86%	
	Adair St	60th St	E	5	40%	40%	60%	40%	60%	80%	60%	80%	
			W	7	29%	29%	29%	29%	43%	29%	29%	29%	
	60th St	60th St	E	4	25%	25%	50%	25%	25%	25%	50%	50%	
			W	3	33%	33%	67%	33%	33%	33%	33%	33%	
Jaymills Av	60th St	Osgood St	E	9	0%	0%	0%	0%	0%	22%	44%	33%	
			W	8	13%	0%	13%	13%	38%	38%	25%	38%	
	Osgood St	59th St	E	9	22%	11%	11%	11%	11%	11%	11%	11%	
			W	9	22%	22%	22%	22%	11%	11%	11%	11%	
	59th St	Hullett St	E	9	33%	33%	33%	22%	11%	11%	11%	11%	
			W	9	11%	11%	11%	11%	11%	11%	11%	11%	
	Hullett St	South St	E	9	22%	33%	33%	33%	44%	33%	33%	33%	
			W	9	0%	11%	0%	0%	22%	0%	0%	0%	
	South St	Lester St	E	12	17%	17%	25%	25%	33%	25%	17%	17%	
			W	12	42%	42%	42%	42%	42%	42%	58%	50%	
Jaymills Av	Lester St	Cedar Av	E	9	11%	22%	22%	33%	33%	44%	44%	44%	
			W	9	22%	22%	11%	22%	44%	44%	67%	56%	
	Cedar Av	Chestnut Av	E	11	36%	27%	36%	55%	64%	64%	64%	64%	
			W	9	33%	33%	33%	33%	33%	44%	56%	56%	
	56th St	Long Beach Bl	Chestnut Av	S	23	0%	0%	0%	0%	4%	0%	0%	4%
				N	20	50%	45%	35%	30%	50%	45%	75%	75%
	Ellis Av	Long Beach Bl	Chestnut Av	S	20	95%	85%	90%	75%	80%	95%	100%	100%
				N	17	0%	0%	0%	0%	0%	0%	12%	6%
	55th St	Long Beach Bl	Chestnut Av	S	18	78%	78%	83%	83%	83%	83%	83%	83%
				N	18	83%	78%	83%	89%	89%	83%	100%	100%
Long Beach Bl	I-710 E Ramps	56th St	E	0	---	---	---	---	---	---	---	---	
			W	0	---	---	---	---	---	---	---	---	
	56th St	Ellis St	E	0	---	---	---	---	---	---	---	---	
			W	4	75%	75%	75%	100%	100%	75%	100%	100%	
	Ellis St	55th St	E	5	80%	60%	80%	60%	60%	40%	20%	60%	
			W	0	---	---	---	---	---	---	---	---	
	55th St	Louise St	E	11	45%	45%	64%	82%	73%	45%	64%	64%	
			W	9	22%	22%	33%	33%	44%	44%	44%	44%	
	Louise St	Market St	E	5	80%	60%	80%	60%	20%	100%	0%	40%	
			W	7	71%	71%	100%	100%	100%	100%	85%	86%	
Parking Lot	De Forest Park			36	14%	3%	3%	8%	22%	8%	14%	11%	
Total available spaces:				1,607									
Percentage of spaces occupied:					24%	24%	25%	25%	29%	31%	33%	35%	
Total spaces occupied:					388	391	400	406	469	502	528	565	

Note: Where no striped spaces exist, 22' provided per space unless observations in a particular segment indicated a higher usage



Table E-9: Weekend Parking Utilization - Section 2 (Saturday, April 9, 2005)

Segment	From	To	Side	Capacity	Occupancy							
					12:00 to 1:00	1:00 to 2:00	2:00 to 3:00	3:00 to 4:00	4:00 to 5:00	5:00 to 6:00	6:00 to 7:00	7:00 to 8:00
Louise St	End	Pacific Av	S	12	9	6	7	10	10	12	12	12
			N	14	9	7	7	9	12	14	13	12
	Pacific Av	Long Beach Bl	S	14	9	9	9	6	7	7	8	9
			N	15	8	9	9	7	7	6	7	7
Market St	End	Pacific Av	S	19	15	16	16	18	19	18	18	18
			N	24	18	20	19	23	22	23	23	24
Plymouth St	End	Pacific Av	S	21	14	12	15	17	17	17	16	16
			N	25	21	20	21	17	14	18	19	21
53rd St	End	Pacific Av	S	23	12	13	14	15	14	12	13	13
			N	25	16	15	16	16	16	15	16	16
Mountain View St	End	Pacific Av	S	26	20	20	22	24	23	22	23	23
			N	28	20	20	21	21	21	21	21	21
Pacific Av	Louise St	Market St	E	8	6	4	4	3	4	4	5	6
			W	8	5	5	3	3	4	6	5	5
	Market St	Plymouth St	E	10	9	10	10	9	8	9	10	10
			W	11	6	6	8	6	6	9	8	9
	Plymouth St	53rd St	E	10	4	7	5	4	4	4	6	5
			W	10	4	6	5	6	7	6	6	7
	53rd St	Mountain View St	E	7	1	1	1	1	1	2	2	2
			W	6	0	0	0	0	0	0	0	0
	Mountain View St	52nd St	E	13	7	7	8	9	9	11	11	11
			W	14	7	7	6	5	6	5	6	6
	52nd St	51st St	E	18	11	11	11	10	11	12	12	11
			W	21	13	13	11	12	12	13	13	13
51st St	51st St	Home St	E	8	3	3	3	3	3	2	3	3
			W	8	4	5	3	2	2	3	3	3
	Home St	Del Amo Bl	E	11	4	6	6	5	7	10	10	10
			W	11	5	6	5	6	6	4	7	7
	52nd St	De Forest Av	S	0	0	0	0	0	0	0	0	0
			N	3	2	1	1	1	2	3	3	3
52nd St	De Forest Av	Daisy Av	S	19	16	16	15	16	16	19	19	19
			N	20	13	14	15	15	15	17	18	18
	Daisy Av	Pacific Av	S	6	3	3	2	3	4	2	2	3
			N	6	4	1	1	4	3	3	4	4
	Pacific Av	Pacific Av	S	7	2	3	3	2	7	3	3	3
			N	3	2	2	2	3	3	3	3	3
Zane St	De Forest Av	Daisy Av	S	21	10	10	10	12	15	13	14	15
			N	22	10	10	12	13	13	12	13	13
51st St	De Forest Av	Daisy Av	S	20	6	7	7	8	9	1	10	9
			N	21	12	10	14	12	12	12	12	13
Daisy Av	Daisy Av	Pacific Av	S	7	4	4	4	7	7	6	7	7
			N	7	2	3	2	2	2	2	3	3
	End	Daisy Av	S	0	0	0	0	0	0	0	0	0
			N	0	0	0	0	0	0	0	0	0
Home St	Daisy Av	Pacific Av	S	4	1	0	0	0	0	0	0	0
			N	4	1	1	1	0	1	1	1	1
	52nd St	Zane St	E	11	7	8	7	8	9	9	9	9
			W	9	6	5	5	7	5	5	5	6
Zane St	Zane St	51st St	E	10	3	0	3	5	5	4	4	3
			W	9	4	3	3	3	3	4	4	4
	51st St	Home St	E	0	0	0	0	0	0	0	0	0
			W	2	0	0	0	0	0	0	0	1
	Home St	Home St	E	9	0	0	0	0	0	0	0	0
			W	3	0	0	0	0	0	0	0	0
	Home St	Del Amo Bl	E	10	0	0	0	0	0	0	0	0
			W	9	0	0	0	0	0	0	0	0
	Del Amo Bl	Oregon Av	S	0	0	0	0	0	0	0	0	0
			N	0	0	0	0	0	0	0	0	0
Oregon Av	Oregon Av	Daisy Av	S	8	6	6	4	5	5	3	5	5
			N	0	0	0	0	0	0	0	0	0
	Daisy Av	Pacific Av	S	0	0	0	0	0	0	0	0	0
			N	5	4	3	3	5	4	3	4	5
De Forest Av	52nd St	Zane St	E	10	2	2	2	2	2	2	2	2
			W	12	0	0	0	0	0	0	0	0
	Zane St	51st St	E	11	0	0	0	0	0	0	0	0
			W	14	0	0	0	0	0	0	0	0
Total available spaces:				722								
Percentage of spaces occupied:					53%	52%	53%	55%	57%	57%	61%	62%
Total spaces occupied:					380	376	381	400	414	412	441	449

Note: Where no striped spaces exist, 22' provided per space unless observations in a particular segment indicated a higher usage

**Table E-10: Weekend Parking Utilization - Section 2 (Saturday, April 9, 2005) - Percentage Occupied**

Segment	From	To	Side	Capacity	Occupancy							
					12:00 to 1:00 - % Occupied	1:00 to 2:00 - % Occupied	2:00 to 3:00 - % Occupied	3:00 to 4:00 - % Occupied	4:00 to 5:00 - % Occupied	5:00 to 6:00 - % Occupied	6:00 to 7:00 - % Occupied	7:00 to 8:00 - % Occupied
Louise St	End	Pacific Av	S	12	75%	50%	58%	83%	83%	100%	100%	100%
			N	14	64%	50%	50%	64%	86%	100%	93%	86%
	Pacific Av	Long Beach Bl	S	14	64%	64%	64%	43%	50%	50%	57%	64%
			N	15	53%	60%	60%	47%	47%	40%	47%	47%
Market St	End	Pacific Av	S	19	79%	84%	84%	95%	100%	95%	95%	95%
			N	24	75%	83%	79%	96%	92%	96%	96%	100%
Plymouth St	End	Pacific Av	S	21	67%	57%	71%	81%	81%	81%	76%	76%
			N	25	84%	80%	84%	68%	56%	72%	76%	84%
53rd St	End	Pacific Av	S	23	52%	57%	61%	65%	61%	52%	57%	57%
			N	25	64%	60%	64%	64%	64%	60%	64%	64%
Mountain View St	End	Pacific Av	S	26	77%	77%	85%	92%	88%	85%	88%	88%
			N	28	71%	71%	75%	75%	75%	75%	75%	75%
Pacific Av	Louise St	Market St	E	8	75%	50%	50%	38%	50%	50%	63%	75%
			W	8	63%	63%	38%	38%	50%	75%	63%	63%
	Market St	Plymouth St	E	10	90%	100%	100%	90%	80%	90%	100%	100%
			W	11	55%	55%	73%	55%	55%	82%	73%	82%
	Plymouth St	53rd St	E	10	40%	70%	50%	40%	40%	40%	60%	50%
			W	10	40%	60%	50%	60%	70%	60%	60%	70%
	53rd St	Mountain View St	E	7	14%	14%	14%	14%	14%	29%	29%	29%
			W	6	0%	0%	0%	0%	0%	0%	0%	0%
	Mountain View St	52nd St	E	13	54%	54%	62%	69%	69%	85%	85%	85%
			W	14	50%	50%	43%	36%	43%	36%	43%	43%
	52nd St	51st St	E	18	61%	61%	61%	56%	61%	67%	67%	61%
			W	21	62%	62%	52%	57%	57%	62%	62%	62%
	51st St	Home St	E	8	38%	38%	38%	38%	38%	25%	38%	38%
			W	8	50%	63%	38%	25%	25%	38%	38%	38%
	Home St	Del Amo Bl	E	11	36%	55%	55%	45%	64%	91%	91%	91%
			W	11	45%	55%	45%	55%	55%	36%	64%	64%
52nd St	End	De Forest Av	S	0	---	---	---	---	---	---	---	---
			N	3	67%	33%	33%	33%	67%	100%	100%	100%
	De Forest Av	Daisy Av	S	19	84%	84%	79%	84%	84%	100%	100%	100%
			N	20	65%	70%	75%	75%	75%	85%	90%	90%
	Daisy Av	Pacific Av	S	6	50%	50%	33%	50%	67%	33%	33%	50%
			N	6	67%	17%	17%	67%	50%	50%	67%	67%
	Pacific Av	Pacific Av	S	7	29%	43%	43%	29%	100%	43%	43%	43%
			N	3	67%	67%	67%	100%	100%	100%	100%	100%
Zane St	De Forest Av	Daisy Av	S	21	48%	48%	48%	57%	71%	62%	67%	71%
			N	22	45%	45%	55%	59%	59%	55%	59%	59%
51st St	De Forest Av	Daisy Av	S	20	30%	35%	35%	40%	45%	5%	50%	45%
			N	21	57%	48%	67%	57%	57%	57%	57%	62%
	Daisy Av	Pacific Av	S	7	57%	57%	57%	100%	100%	86%	100%	100%
			N	7	29%	43%	29%	29%	29%	29%	43%	43%
Home St	End	Daisy Av	S	0	---	---	---	---	---	---	---	---
			N	0	---	---	---	---	---	---	---	---
	Daisy Av	Pacific Av	S	4	25%	0%	0%	0%	0%	0%	0%	0%
			N	4	25%	25%	25%	0%	25%	25%	25%	25%
Daisy Av	52nd St	Zane St	E	11	64%	73%	64%	73%	82%	82%	82%	82%
			W	9	67%	56%	56%	78%	56%	56%	56%	67%
	Zane St	51st St	E	10	30%	0%	30%	50%	50%	40%	40%	30%
			W	9	44%	33%	33%	33%	33%	44%	44%	44%
	51st St	Home St	E	0	---	---	---	---	---	---	---	---
			W	2	0%	0%	0%	0%	0%	0%	0%	50%
	Home St	Home St	E	9	0%	0%	0%	0%	0%	0%	0%	0%
			W	3	0%	0%	0%	0%	0%	0%	0%	0%
	Home St	Del Amo Bl	E	10	0%	0%	0%	0%	0%	0%	0%	0%
			W	9	0%	0%	0%	0%	0%	0%	0%	0%
Del Amo Bl	I-710 E Ramps	Oregon Av	S	0	---	---	---	---	---	---	---	---
			N	0	---	---	---	---	---	---	---	---
	Oregon Av	Daisy Av	S	8	75%	75%	50%	63%	63%	38%	63%	63%
			N	0	---	---	---	---	---	---	---	---
	Daisy Av	Pacific Av	S	0	---	---	---	---	---	---	---	---
			N	5	80%	60%	60%	100%	80%	60%	80%	100%
De Forest Av	52nd St	Zane St	E	10	20%	20%	20%	20%	20%	20%	20%	20%
			W	12	0%	0%	0%	0%	0%	0%	0%	0%
	Zane St	51st St	E	11	0%	0%	0%	0%	0%	0%	0%	0%
			W	14	0%	0%	0%	0%	0%	0%	0%	0%
Total available spaces:				722								
Percentage of spaces occupied:					53%	52%	53%	55%	57%	57%	61%	62%
Total spaces occupied:					380	376	381	400	414	412	441	449

Note: Where no striped spaces exist, 22' provided per space unless observations in a particular segment indicated a higher usage

**Table E-11: Weekend Parking Utilization - Section 3 (Saturday, April 9, 2005)**

Segment	From	To	Side	Capacity	Occupancy							
					12:00 to 1:00	1:00 to 2:00	2:00 to 3:00	3:00 to 4:00	4:00 to 5:00	5:00 to 6:00	6:00 to 7:00	7:00 to 8:00
Section 3a												
Oregon Av	Del Amo Bl	49th St	E	21	16	16	14	14	15	14	16	16
			W	22	12	14	14	16	17	12	15	15
	49th St	48th St	E	0	0	0	0	1	2	1	0	0
			W	5	2	3	4	3	4	4	5	5
	48th St	End	E	2	1	1	4	1	1	1	1	1
W			7	2	2	2	2	2	2	2	2	
Daisy Av	Del Amo Bl	49th St	E	18	13	13	15	17	15	13	15	16
			W	17	13	13	14	14	11	12	13	12
	49th St	48th St	E	20	16	17	19	18	18	14	16	18
			W	22	12	12	14	14	12	12	13	13
	48th St	End	E	8	5	5	4	4	4	4	4	5
W			7	4	4	3	2	2	2	3	4	
Pacific Av	Del Amo Bl	49th St	E	17	10	11	11	8	8	8	9	10
			W	19	11	13	11	14	15	13	14	14
	49th St	48th St	E	18	9	8	11	15	14	15	15	15
			W	22	18	19	17	19	21	19	19	21
	48th St	End	E	15	4	3	2	6	7	14	14	15
W			11	7	7	10	10	10	11	11	11	
49th St	Oregon Av	Daisy Av	S	9	2	2	2	2	2	3	3	3
			N	8	2	2	2	5	5	6	5	5
	Daisy Av	Pacific Av	S	6	2	2	5	6	5	8	7	8
			N	9	4	4	5	4	5	6	6	6
48th St	End	Oregon Av	S	14	3	3	4	3	3	4	4	4
			N	13	2	1	1	4	4	4	4	4
	Oregon Av	Daisy Av	S	8	4	4	4	4	4	5	5	5
			N	8	1	2	2	2	3	3	3	3
	Daisy Av	Pacific Av	S	8	8	9	1	8	9	5	6	8
			N	9	3	3	2	2	3	4	3	5
Section 3b												
Carson St	Via Oro Av	Via Alcalde Av	S	0	0	0	0	0	0	0	0	0
			N	0	0	0	0	0	0	0	0	0
	Via Alcalde Av	End	S	0	0	0	0	0	0	0	0	0
			N	0	0	0	0	0	0	0	0	0
Total available spaces:				343								
Percentage of spaces occupied:					54%	56%	57%	64%	64%	64%	67%	71%
Total spaces occupied:					186	193	197	218	220	219	230	244

Note: Where no striped spaces exist, 22' provided per space unless observations in a particular segment indicated a higher usage

**Table E-12: Weekend Parking Utilization - Section 3 (Saturday, April 9, 2005) - Percentage Occupied**

Segment	From	To	Side	Capacity	Occupancy							
					12:00 to 1:00 - % Occupied	1:00 to 2:00 - % Occupied	2:00 to 3:00 - % Occupied	3:00 to 4:00 - % Occupied	4:00 to 5:00 - % Occupied	5:00 to 6:00 - % Occupied	6:00 to 7:00 - % Occupied	7:00 to 8:00 - % Occupied
Section 3a												
Oregon Av	Del Amo Bl	49th St	E	21	76%	76%	67%	67%	71%	67%	76%	76%
			W	22	55%	64%	64%	73%	77%	55%	68%	68%
	49th St	48th St	E	0	---	---	---	---	---	---	---	---
			W	5	40%	60%	80%	60%	60%	80%	80%	100%
Daisy Av	48th St	End	E	2	50%	50%	200%	50%	50%	50%	50%	50%
			W	7	29%	29%	29%	29%	29%	29%	29%	29%
	Del Amo Bl	49th St	E	18	72%	72%	83%	94%	83%	72%	83%	89%
			W	17	76%	76%	82%	82%	65%	71%	76%	71%
Pacific Av	49th St	48th St	E	20	80%	85%	95%	90%	90%	70%	80%	90%
			W	22	55%	55%	64%	64%	55%	55%	59%	59%
	48th St	End	E	8	63%	63%	50%	50%	50%	50%	50%	63%
			W	7	57%	57%	43%	29%	29%	29%	43%	57%
49th St	Del Amo Bl	49th St	E	17	59%	65%	65%	47%	47%	47%	53%	59%
			W	19	58%	68%	58%	74%	79%	68%	74%	74%
	49th St	48th St	E	18	50%	44%	61%	83%	78%	83%	83%	83%
			W	22	82%	86%	77%	86%	95%	86%	86%	95%
48th St	48th St	End	E	15	27%	20%	13%	40%	47%	93%	93%	100%
			W	11	64%	64%	91%	91%	91%	100%	100%	100%
	Oregon Av	Daisy Av	S	9	22%	22%	22%	22%	22%	33%	33%	33%
			N	8	25%	25%	25%	63%	63%	75%	63%	63%
49th St	Daisy Av	Pacific Av	S	6	33%	33%	83%	100%	83%	133%	117%	133%
			N	9	44%	44%	56%	44%	56%	67%	67%	67%
	End	Oregon Av	S	14	21%	21%	29%	21%	21%	29%	29%	29%
			N	13	15%	8%	8%	31%	31%	31%	31%	31%
48th St	Oregon Av	Daisy Av	S	8	50%	50%	50%	50%	50%	63%	63%	63%
			N	8	13%	25%	25%	25%	38%	38%	38%	38%
	Daisy Av	Pacific Av	S	8	100%	113%	13%	100%	113%	63%	75%	100%
			N	9	33%	33%	22%	22%	33%	44%	33%	56%
Section 3b												
Carson St	Via Oro Av	Via Alcalde Av	S	0	---	---	---	---	---	---	---	---
			N	0	---	---	---	---	---	---	---	---
	Via Alcalde Av	End	S	0	---	---	---	---	---	---	---	---
			N	0	---	---	---	---	---	---	---	---
Total available spaces:				343								
Percentage of spaces occupied:					54%	56%	57%	64%	64%	64%	67%	71%
Total spaces occupied:					186	193	197	218	220	219	230	244

Note: Where no striped spaces exist, 22' provided per space unless observations in a particular segment indicated a higher usage

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*Final*

# **Joint Dominguez Gap and DeForest Treatment Wetlands Project Final Environmental Impact Report**

(SCH #2005011101)

Prepared for  
**County of Los Angeles  
Department of Public Works**

900 South Fremont Avenue  
Alhambra, California 91803

November 2005



3 Hutton Centre Drive, Suite 200  
Santa Ana, California 92707

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# Acronyms and Abbreviations

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BMP	Best Management Practice
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
County	County of Los Angeles
DPW	Department of Public Works
EIR	Environmental Impact Report
MMRP	Mitigation Monitoring and Reporting Program
NOA	Notice of Availability
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
PM <sub>10</sub>	particulate matter with a diameter of 10 micrometers or less
Project	Joint Dominguez Gap and DeForest Treatment Wetlands Project
RWQCB	California Regional Water Quality Control Board
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
WGA	Waas Gerke and Associates



# 1.0 Introduction

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## 1.1 Organization of Final EIR

The Final Environmental Impact Report (EIR) for the Joint Dominguez Gap and DeForest Treatment Wetlands Project (Project) consists of the Draft EIR dated June 2005, State Clearinghouse Number 2005011101, and this document, which is organized in the following manner:

- Section 1 provides the Project background and describes any changes that have been made to the Draft EIR.
- Section 2 includes letters received during the public comment period for the Draft EIR and provides detailed responses to comments contained in those letters.
- Section 3 is the Mitigation Monitoring and Reporting Program (MMRP) for the Project and is provided to ensure the enforcement of all mitigation measures identified in the EIR to reduce the significant environmental impacts of the Project to less-than-significant levels.
- Section 4 includes reference information for published materials used during preparation of this Final EIR.

## 1.2 Project Background

The Draft EIR was prepared to address potential environmental impacts from construction and operation of the proposed Project. The proposed Project is located in the City of Long Beach and is comprised of improvements at the existing Dominguez Gap Spreading Grounds and Market Street Basin. The proposed Project would implement a multipurpose wetland development that would provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation, and education; be safe for passive public use; and require minimal maintenance while retaining the existing flood control capacity.

The Draft EIR was prepared in accordance with the California Environmental Quality Act (CEQA). The County of Los Angeles is the Lead Agency for the CEQA process and has independently evaluated, directed, and supervised the preparation of the Draft and Final EIRs.

In accordance with the State CEQA Guidelines, the Draft EIR was distributed to public agencies and the general public by the Los Angeles County Department of Public Works (DPW) on June 24, 2005, for a 45-day public review period. Availability of the Draft EIR for public review was provided by posting a Notice of Availability (NOA) at the Los Angeles County Clerk's Office, publication of public notice in the Los Angeles Times, and filing a Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research. The notices included a list of locations where the document was available for review. Public comments on the Draft EIR were also solicited at a public hearing that was held on July 13, 2005. No substantive comments on content of the



Draft EIR or other environmental issues related to the proposed Project were received at the public hearing.

## 1.3 Comments to the Draft EIR

Three comment letters were received during the public comment period. Section 2.0 includes a copy of all comment letters submitted to DPW and contains responses to significant environmental issues raised, in accordance with CEQA Guidelines Sections 15088(b) and 15132. Responses to comments provided in Section 2.0 are to be considered minor additions, changes, and/or clarifications to the Draft EIR.

## 2.0 Comment Letters and Responses to Comments

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The CEQA comment period for the Joint Dominguez Gap and DeForest Treatment Wetlands Project Draft EIR started on June 24, 2005 and ended 45 days later on August 9, 2005. Three comment letters were received. This section of the Final EIR includes a copy of all comment letters submitted to the Lead Agency and contains responses to comments in accordance with CEQA Guidelines Section 15088 (Evaluation of and Response to Comments).

Comment letters were received from the following agency and persons and are listed in the order received:

<b><u>Letter #</u></b>	<b><u>Signatory</u></b>
1	State of California Public Utilities Commission
2	George Prince
3	Clarann Levakis

This section is organized with the responses following each comment letter.

## Comment Letter #1

STATE OF CALIFORNIA

ARNOLD SCHWARZENEGGER, Governor

## PUBLIC UTILITIES COMMISSION

320 WEST 4<sup>TH</sup> STREET, SUITE 500  
LOS ANGELES, CA 90013

July 21, 2005

File No. SCH 2005011101

Daniel B. Sharp  
County of Los Angeles Dept. of Public Works  
900 Fremont Ave., 11<sup>th</sup> Floor  
Alhambra, CA 91803

Subject:

Dear Mr. Sharp:

The California Public Utilities Commission (Commission) has jurisdiction over the safety of highway-rail crossings in California. The California Public Utilities Code requires Commission approval for the construction or alteration of crossings and grants the Commission exclusive power to determine the design, alternation, and closure of crossings.

1

The Commission is in receipt a copy of the *Notice of Completion & Environmental Document Transmittal Form*, dated June 24, 2005 from the State Clearing House. The project description mentions a multipurpose wetland development. The proposed project is near the Union Pacific Railway Company and Los Angeles County Metropolitan Transportation Authority right-of-way. If the wetlands project does include altering either a rail or transit bridge crossing, then the Commission's Rail Crossings Engineering Section should be contacted to discuss the Commission's requirements.

2

If you have any questions in this matter, please contact me at (213) 576-7078 or at [rxm@cpuc.ca.gov](mailto:rxm@cpuc.ca.gov).

Sincerely,

  
Rosa Muñoz, PE  
Utilities Engineer

Rail Crossings Engineering Section  
Consumer Protection & Safety Division

cc: Richard Gonzales, UP  
Vijay Khawani, LACMTA

## Responses to Comment Letter #1 (State of California Public Utilities Commission)

### Response to Comment 1

Comment noted.

### Response to Comment 2

Comment noted. The proposed Project would not alter a rail or transit bridge crossing.

## Comment Letter #2

Ms Linda Ivers  
 R.Gabelich Long Beach Council Office  
 3837 Atlantic Ave.  
 Long Beach, California, 90807  
 July 29 ,2005

Ms. Ivers:

This letter is to memorialize and alert you and the city of Long Beach of the potential errors in public safety that I feel are about to develop in North Long Beach, Ms Gabelich's council district.

Over one year ago there was a community meeting at the Los Cerritos lower school auditorium. Here a well polished presentation was given by a hired contractor, who explained the coming "Joint Domingues Gap and DeForest treatment Wetlands Project". This was being funded by the County of Los Angeles Department of Public Works. This has resulted in a Draft Environmental Impact Report(sch#2005011101) which I have read in detail I have contacted appropriate health departments to see what their considerations are about the proposed projects. Here are my findings and factual concerns.

One year ago the West Nile Virus was considered a public health problem, but not a serious one. Now the Los Angeles Public Health Alert Bulletin considers the virus endemic and much more of a health risk for the young and elderly populations. This is now exposed as a serious viral health risk problem with no vaccine. To give credence to the endemic threat, the hundreds of black crows that swarmed over the Los Cerritos Park, which is in very close proximity to the proposed project, are no more. Victims of the virus. Mosquito populations in warm weather can mature in six to seven days. Unfortunately mosquitos can vector many other horrible viral diseases as Equine Viral Encephalitis, St. Louis Encephalitis and other viral and parasitic diseases. Putting a swamp in North Long Beach with a population of minority and low income households is at best tragic. Scientifically and medically this can not be justified with our present endemic virus population which will not vanish in the projected future.

Consider this- neither Los Angeles Health Department or Long Beach Health Department heads were aware of the projected wetlands swamp proposal. Never the less after I read the impact report and the Appendix D, Mosquito Evaluation And Vector Control Analysis, the faith of preventing death and horrible neural damage to the surrounding at risk population, are mosquito predators and larvicides, which are never 100% effective. But not to worry if the mosquito count gets too high we can spray insecticides. Here then you are going to rely on a bureaucratic employee in the mosquito abatement district to decide all swamp analysis in prophylactics and therapeutics. This is an invitation to disaster. The impact report truly implies after reading, but does not say after all the fancy analytical words, that the only 100 % way to prevent viral vector disease is to not build the swamp. One health department head went into the ecological need for wetlands and the enviromental elegance these areas give to the urban dweller. I then asked if he had ever taken care of neurologically damaged child from a encephalitic viral disease, or signed a death certificate resulting from a mesquito vector viral pneumonia. For anyone to

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advocate such a swamp project at this time is I feel wanton hubris. However I was informed that this really is a political decision and their health departments can only recommend, but the Los Angeles Department of Public Works has a very large budget and both departments would have to investigate and respond with their official position.

2

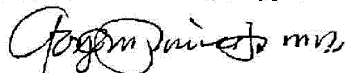
Considering all the politics and enormous tax dollars that will be spent worrying about any disadvantaged population's health seems truly quixotic. To give a final realistic consideration let me relate the simple but tragically profound problem we now have with a functional swamp in the area. Next to the Cerritos park at a low drainage area on Delmar street, across from the infants sand box, swings and slides, the drainage ditch from the street goes under a small drainage tunnel that the Blue Line passes over. This is county property. From sprinkler irrigation in the area and the occasional broken water line this area floods and accumulates a swamp sometimes 24 inches deep with an area 75 by 30 feet wide. I alerted the Long Beach Health Department and after investigation was told "we've reported it, and that's all that we can do!" I have stopped putting chlorate in the pool swamp and have watched the mosquitoes enjoy their home. Several crows that I did see migrating back into the area at the beginning of the summer are now gone.

3

Simply said if this drainage swamp supervision and elimination is an example of public health environmental concern by the city or county management then true tragedy will occur.

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And now it is proposed to have nine acres of wetland swamp. I personally am unable to see how it can be medically justified.



George Prince M.D.  
Terry Lynn Pl.  
Long Beach  
California

Retired board certified anesthesiologist from Long Beach Memorial Hospital.

— Ms. Linda Ivers, this letter may be copied and sent to any party or parties you consider.

## Responses to Comment Letter #2 (George Prince)

### Response to Comment 1

Comment noted.

### Response to Comment 2

The DPW recognizes the potential threat to human populations of mosquito-borne diseases, including West Nile virus. A full review of potential disease vector species and mosquito-borne diseases is provided in Appendix D of the Draft EIR, the Vector Management Plan.

As indicated in the Draft EIR, specific measures have been incorporated in the design and would be implemented in the management of the wetland to ensure that the proposed Project would not likely result in a net change in potential mosquito production in the proposed Project vicinity. Existing basin land uses in the area currently contribute to some level of mosquito production. This includes irrigated turf areas, unmanaged areas of the Los Angeles River, uncontrolled tributaries to the Los Angeles River, golf course drainages, storm drains, residential areas, and the existing degraded wetlands and infiltration ponds at the proposed Project site.

The latter includes the East and West Basins of Dominguez Gap Spreading Grounds, which are periodically flooded or drawn down for infiltration or flood control purposes, and may have standing water at any time. Existing wetland vegetation, organic debris, and trash may be present within the East Basin along the perimeter of ponded areas. Water flow may be very slow in the summer months, and wave action may be minimal in some parts of the basins. All of these conditions may contribute to substantial mosquito production by both floodwater mosquito species which lay their eggs in drying soil or debris (hatching when reflooded), and species that lay their eggs on the water surface or the leaves of aquatic plants.

The DeForest Park Nature Center also contains about 3 to 4 acres of standing water with some emergent marsh vegetation at the mouth of two storm drains that empty into the north part of the Nature Center. Low flow urban runoff and storm flow feed this area from the storm drains year-round. This area has moderately poor water quality, high organic loading, very slow flow rates, and extensive areas of dense vegetation. These are all conditions that may contribute to substantial mosquito production. For this reason, as stated in the Draft EIR, the proposed Project is not expected to cause a net change in current populations of mosquitoes and other nuisance organisms when compared to existing basin land uses. Research suggests that carefully designed and managed sites may in fact produce fewer mosquitoes than unmanaged sites (Walton 2003; Drill 2003).

The Draft EIR addressed the potentially significant mosquito and West Nile virus impacts by including the Vector Management Plan (Appendix D), which requires mosquito control and management. The components of this plan, when implemented in engineered treatment wetland facilities such as the Tres Rios project in Phoenix, Arizona, have resulted in significantly reduced mosquito breeding (WGA 2001). By strictly following the proposed management plan, the potential impacts would be reduced below a level of significance. Furthermore, the Vector Management Plan was discussed with the City of Long Beach Health and Human Services Department and they concur that it would adequately address vector issues.

Mosquito management is integral to the proposed Dominguez Gap and Deforest Wetland facilities, as stated in Appendix D of the Draft EIR. Mosquito management was considered during the preliminary design and layout of the wetland facilities. Considerations included design features that allow control of water surface elevations, provide open water zones to encourage development of mosquito predators such as fish and select macroinvertebrates, and establish access roads that encircle all wetland basins to facilitate complete larvicide coverage of densely vegetated areas using common broadcast equipment.

Mosquito management is also considered over the operational life of the systems. The Mosquito management plan includes routine monitoring of both juvenile and adult mosquitoes. Data collected from these efforts will be assessed and used to trigger appropriate responses, e.g., vegetation maintenance, dewatering of the basins, larvicide applications, and adulticide applications. The recommended larvicides include two *Bacilli* that are currently registered for use against mosquitoes in much of the United States, *Bacillus thuringiensis* variety *israelensis* (*Bti*) and *B. sphaericus* (*Bs*). These *Bacillus* toxins are target-specific and are safe to humans and other non-target organisms under current application rates and modes of contact (Walton and Mulla 1992).

In the absence of the proposed Project the existing conditions at the site would continue to contribute to mosquito production in the area. The proposed data collection and subsequent management information would not be available to assist vector control agencies in providing public health and safety programs for those residing in or frequenting the proposed Project area.

As stated in the Draft EIR, all identified potentially significant impacts, including mosquito-borne diseases, resulting from construction and operation of the proposed Project would be mitigated to below a level of significance. Therefore, the proposed Project would not result in a significant environmental impact on low income and minority groups.

American crows (*Corvus brachyrhynchos*) and other corvids (jays, crows) are known to be highly susceptible to west nile virus, with high fatality rates reported (Yaremych *et al.* 2004; Millius 2003), and American crow in particular has been identified as a sentinel species for the presence of west nile virus (Eidson *et al.* 2001). Anecdotal reports have indicated that shortly after west nile virus infections were reported in an area, crow populations apparently declined (Drill 2003). Because west nile virus has been reported in the Long Beach area from 2004 on, it is conceivable and even likely that purported population declines in American crow in Los Cerritos Park are attributable to the disease. However, without additional study, the extent of the decline of the population, or the causative agents, can't be confirmed.

The City of Long Beach Health and Human Services manages the Vector Control Program for the area surrounding the Project site, and the City has exclusive jurisdiction over vector control issues on the Project site. The City's Health and Human Services Department has been consulted in the design process, and was provided a copy of the Draft EIR and related documentation. The Vector Management Plan was discussed with the Department and they agreed that it would adequately address vector issues for the proposed Project.



### Response to Comment 3

As Dr. Prince indicates, other sources of standing water may be present within the Project site or within the surrounding area at any given time, including broken water lines, overflowing irrigation systems, backyard pools or ponds, or standing water in buckets or other containers. Often, these sources of standing water provide optimal mosquito breeding habitat (e.g., poor water quality, little or no flow, etc.). In addition, the nearby Los Angeles River has flows year round, including areas of stagnant water during the low flow summer season, when a shallow sheet of water and extensive algae production is present on the concrete shelf. The standing water and vegetation associated with the existing Dominguez Gap and DeForest Park facilities were described above.

Poorly designed and/or unmanaged treatment wetland systems can be sources of mosquito production (Walton 2000; Walton 2003). This can occur for numerous reasons including but not limited to: 1) poor water quality; 2) a lack of monitoring data (e.g., the problem persists because the appropriate management agency has no knowledge of it); 3) vegetation growth and decay is unmanaged which in turn can cause isolated stagnant open water areas to form; 4) the topography does not allow for water management; 5) the system has inadequate access for biological mosquito control agents including fish; and 6) the site may be configured in such a way as to preclude the use of common broadcasting equipment to apply larvicides. As such mosquito breeding may occur in places such as described in Cerritos Park, or in some regions, abandoned swimming pools and/or improperly functioning irrigation systems may serve as significant mosquito breeding sites because they too are unmanaged and unmonitored from a vector control standpoint.

This existing situation is in contrast to the proposed Dominguez Gap and Deforest Wetland facilities. As stated above in the response to Comment No. 2, mosquito management is integral to the Project, and was considered during the design and layout of the wetland facilities. When compared to existing conditions which potentially involve substantial mosquito production in the area, with vector control and management, the proposed Project is not expected to result in a net increase in mosquito production.

### Response to Comment 4

Comment noted. Also, refer to response to comment 2.

## Comment Letter #3

August 9, 2005  
 By facsimile  
 To:  
 Daniel Bishop  
 County of Los Angeles Department of Public Works  
 Watershed Management Division  
 9005 Fremont Avenue, 11<sup>th</sup> Floor  
 Alhambra, CA 91803

The following comments are submitted re: the Draft Environmental Impact Report, Domínguez Gap and Deforest Treatment Wetlands Project. Please enter them as part of the public record.

The El Dorado Audubon Society, a local chapter of the National Audubon Society serving Long Beach and neighboring communities, supports the proposed process as apposed to Alternative A as set forth in the Draft EIR. Southern Los Angeles County along with much of Southern California is sadly impoverished with respect to native wildlife and supportive habitats. Thus the economic, recreational, educational, and aesthetic opportunities afforded by biologically rich areas accessible to the public are highly limited when compared to the region's original natural resources. Our wetlands have particularly fallen victim to the forces of rapidly growing human populations and poorly planned development characterized by deteriorating urban areas and unchecked suburban sprawl. The proposed project provides an opportunity for restoration and enhancement of fresh water wetlands, a habitat type once extensive in Southern Los Angeles County, but currently nearly nonexistent.

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Having expressed our support for the proposed project, I would like to offer the following more specific comments.

I am concerned that there be maximum attention given to public safety. I lived in North Long Beach for approximately 15 years. As an avid birder, I visited the Deforest project area many times. During periods of spring and fall migration, I visited this site sometimes daily. I can attest to the fact that several species of resident and migratory birds made extensive use of the habitat, even in its degraded state. My observations included resident Loggerhead Shrike at least through mid 1990's with evidence of breeding on site (adult birds feeding dependent young). I also observed a Southwestern Willow Flycatcher during spring migration in April 1991. I also observed over wintering Yellow Warblers during several Long Beach Christmas Bird Counts, and Peregrine Falcon hunting along the river channel.

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Always during my birding on this site I was aware of the very real potential for danger to person and property. I encountered homeless persons camping beneath the trees, and evidence of gang activity such as "tagging" and drug transactions, as well as the presence of obviously disturbed persons wandering through the area. I also observed frequent vandalism, littering, use of the nature trail by motorized two-wheel vehicles, and dogs off leash defecating and entering bird resting and nesting areas. I feel that these "lesser"

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examples of resource abuse seem to inevitably lead to greater incidents of illegal and anti-social behavior. This greatly diminishes the education, recreational and educational potential of natural areas.

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With regard to the Nature Center building, we ask that it be sited on project land with little or no natural resources values. To foster maximum return on dollars invested we suggest extensive use of properly supervised volunteer staffing for educational and recreational activities offered to the public. Noting the yearly budget reductions that have affected the El Dorado Nature Center in Long Beach, including a current proposal to close the facility an additional day each week, we feel that volunteer staffing be used when ever possible to avoid similar problems with the proposed project.

4

We anticipate that the cumulative negative effects of development and operation of the proposed project are vastly offset by the greatly enhanced public service values that the project would afford. We expect that state of the art measures will be used for vector control to protect public health of nearby neighborhoods and project visitors.

5

We look forward to continued input and participation in the planning and implementation of the project process.

Sincerely,  
 Claram Levakis  
 Nature Center Liaison  
 El Dorado Audubon Society  
 8543 Via Tina  
 La Palma, CA 90623  
 (714) 876-0048

## Responses to Comment Letter #3 (Clarann Levakis)

### Response to Comment 1

Comment noted.

### Response to Comment 2

Comment noted. The public safety comment is addressed below in the Response to Comment 3. Use by the species listed, including loggerhead shrike, yellow warbler, southwestern willow flycatcher, and peregrine falcon, was evaluated in the Draft EIR. Appropriate mitigation would be implemented where necessary for birds with the potential to breed on the site, including loggerhead shrike, yellow warbler, and Cooper's hawk. The proposed Project is not expected to cause significant impacts to transient birds, including peregrine falcon or southwestern willow flycatcher.

### Response to Comment 3

Security risks have been recognized for the proposed Project site, and a number of landscape design features have been implemented to minimize potential risks. This includes the following:

- Limiting the planting of dense, wooded habitats to narrow areas along the proposed waterways, where conditions are otherwise expected to discourage public access (e.g. wet, muddy ground, lack of trail access, or steep slopes).
- In upland, easily accessible areas, the primary plant community will be native scrub vegetation; the plant palette for this community has emphasized low-growing shrubs which will maintain a relatively open aspect; some scattered groves of trees will be planted in this community, but species selected are expected to shed lower branches and provide an open aspect with ample visibility.
- Existing and proposed trails will be more clearly marked, and measures to limit off-trail travel will be emphasized in the proposed Project, including vegetation designed to discourage off-trail travel, and fencing/gating to discourage nighttime use.

Page 2-34 in the Project Description section of the Draft EIR states that trash will be removed from the site during operation. Pages 2-18 and 3-46 of the Draft EIR address safety and vandalism issues. The proposed Project is not expected to result in a significant impact related to trash, public safety or vandalism.

### Response to Comment 4

The Nature Center building is not part of the proposed Project, and therefore, it was not addressed in this Draft EIR except with respect to potential cumulative impacts.

### Response to Comment 5

The Draft EIR for the Dominguez Gap and Deforest Wetland Project facilities includes a multi-layered/integrated Vector Control Management Plan (Appendix D). This plan was initiated at the Conceptual Design phase and provides guidance for operation and maintenance geared towards minimizing mosquito production within the proposed wetland features over the life of the Project. The plan includes developing wetland basins that

support a diverse vegetation community which in turn provides habitat for mosquito-eating fish and macroinvertebrates. Furthermore, the plan discusses vegetation management activities that are used to minimize potential mosquito breeding within the basins by providing access to breeding locations for fish and mosquito control agents. Monitoring of larval and adult mosquitoes is also a part of the plan, the results of which are continuously tracked and used to trigger control activities. Finally, a state of the art mosquito larvicide program will be provided that utilizes the latest formulation(s) of target-specific mosquito larvicides and delivery methods to ensure control. The recommended larvicides include two *Bacilli* that are currently registered for use against mosquitoes in much of the United States, *Bacillus thuringiensis* variety *israelensis* (*Bti*) and *B. sphaericus* (*Bs*). These *Bacillus* toxins are target-specific and are safe to humans and other non-target organisms under current application rates and modes of contact (Walton and Mulla 1992).

## 3.0 Mitigation Monitoring and Reporting Program

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### 3.1 Introduction

Pursuant to the requirements of Public Resources Code Section 21081.6, when a governmental agency adopts findings committing itself to mitigation measures after preparation of an environmental impact report, the public agency shall also adopt a reporting or monitoring program for the changes made to the project or conditions of project approval that mitigate or avoid significant effects on the environment. The program shall be designed to ensure compliance during project implementation.

The MMRP discussed in this section has been prepared to meet these requirements for preparing an MMRP to provide for the monitoring of the mitigation measures required for the proposed Project. The MMRP is derived from the mitigation measures listed in the Draft EIR.

### 3.2 DPW Responsibility

DPW will be responsible for the monitoring, performance, and effectiveness of the mitigation measures proposed for development and operation of the Project. DPW will manage the mitigation monitoring program relative to any additional measures that may be required by discretionary actions taken by the California Department of Fish and Game (CDFG), California Regional Water Quality Control Board (RWQCB), the U.S. Army Corps of Engineers (USACE), and other agencies. In addition, DPW will be responsible for documenting that the required mitigation measures are implemented.

### 3.3 MMRP Process

Commencing upon Project approval, Project-specific mitigation measures will be implemented and monitoring activities will be performed to document compliance with the requirements for mitigation. Monitoring is an ongoing process of Project oversight and will continue throughout implementation of the Project, including design, construction, and subsequent operation. The MMRP identifies the mitigation measures and reporting requirements, monitoring time frame, specific compliance criteria, and reporting mechanism. Compliance criteria include monitoring frequency, identification of the monitoring agency, and a list of any agencies that should receive periodic activity reports.

### 3.4 MMRP Organization

The following components are included in a matrix format:

- **Mitigation Measures:** Mitigation measures are identified by number code and correspond to the mitigation number code used in the Draft EIR.

- **Mitigation Compliance Purpose:** Describes the type of impact that each mitigation measure applies to.
- **Monitoring and Reporting Actions:** An outline of the appropriate monitoring and reporting actions required to verify implementation of the mitigation measure.
- **Monitoring Phase:** Identifies the schedule for conducting each mitigation measure monitoring and reporting requirement.
- **Monitoring Agency and Enforcement Agency:** The agency or agencies involved with the review and approval of actions required to implement the mitigation measure and to ensure compliance with the requirements for mitigation.

The MMRP for the proposed Project is presented in Table 1. Mitigation measures and mitigation monitoring are required only for those resource areas for which potential significant environmental impacts have been identified in the Draft EIR. For the proposed Project, this includes air quality, biological resources, geology and soils, hydrology and water quality, and noise.

### 3.5 Public Access to Records

The public will have access to all records and reports used to track the monitoring programs by DPW. DPW will develop a comprehensive filing and tracking system to ensure that all monitoring aspects of the Project are complied with during the life of the Project.

TABLE 1  
Mitigation Monitoring and Reporting Program (MMRP)  
Joint Dominguez Gap and DeForest Treatment Wetlands Project

Mitigation Measures	Mitigation Compliance Purpose	Monitoring and Reporting Actions	Monitoring Phase (Schedule)	Monitoring Agency/ Enforcement Agency
<b>AIR QUALITY</b>				
<p><b>Mitigation Measure AQ-1: Air Quality</b></p> <p>The following control measures shall be implemented during construction of the proposed Project to minimize fugitive dust emissions:</p> <ul style="list-style-type: none"> <li>The area disturbed by clearing, grading, earth moving, or excavation operations shall be as small as feasible to prevent excess dust.</li> <li>Pregrading/excavation activities shall include watering the area to be graded or excavated before commencement of grading or excavation. Application of water (reclaimed, if available) must penetrate sufficiently to minimize fugitive dust during grading activities.</li> <li>Trucks are required to have their loads covered as required by the SCAQMD.</li> <li>Graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved onsite roadways, shall be treated to prevent fugitive dust. Treatment shall include, but not be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll compaction as appropriate. Watering shall be done at least twice daily.</li> <li>Inactive graded and/or excavated areas shall be monitored at least weekly for dust stabilization. Soil stabilization methods, such as water and roll compaction and application of environmentally safe dust control materials, shall be periodically implemented over portions of the construction site that are inactive for over 4 days.</li> <li>Signs shall be posted to limit traffic to 15 mph or less.</li> </ul>	<p>Construction emissions would result in an exceedance of the SCAQMD significance criteria for PM<sub>10</sub>.</p>	<p>DPW will observe Project construction activities to verify implementation of control measures for fugitive dust emissions.</p> <p>DPW will record observations in field monitoring notes.</p>	<p>During construction</p>	<p><b>Monitoring Agency:</b></p> <p>DPW</p> <p><b>Enforcement Agency:</b></p> <p>SCAQMD</p>



TABLE 1  
Mitigation Monitoring and Reporting Program (MMRP)  
Joint Dominguez Gap and DeForest Treatment Wetlands Project

Mitigation Measures	Mitigation Compliance Purpose	Monitoring and Reporting Actions	Monitoring Phase (Schedule)	Monitoring Agency/ Enforcement Agency
<ul style="list-style-type: none"> <li>During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), clearing, grading, earth moving, and excavation operations shall be curtailed to the degree necessary to prevent fugitive dust created by onsite activities and operations from being a nuisance or hazard to offsite properties.</li> <li>Adjacent streets and roads shall be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.</li> </ul>				
<b>BIOLOGICAL RESOURCES</b>				
<b>Mitigation Measure BR-1: Biological Resources</b>  A worker awareness handout shall be provided to all onsite personnel. The handout shall specify sensitive biological resources, protection measures, and individual responsibilities. The handout shall also identify appropriate contact procedures and personnel information should sensitive biological resources be encountered.	The loss of sensitive biological resources resulting from construction activities.	DPW to maintain a signature list to be signed by all onsite personnel confirming receipt and understanding of the worker awareness handout.	During construction	<b>Monitoring Agency:</b>  DPW  <b>Enforcement Agency:</b>  CDFG, DPW
<b>Mitigation Measure BR-2: Biological Resources</b>  Vegetation shall not be cleared until June 15 (if feasible) when the young have fledged the nest, to avoid impacts to breeding birds. This will serve to avoid impacts to all breeding birds, including special-status birds such as Cooper's hawk or yellow warbler.	Impacts to breeding birds, including special-status birds, from construction activities.	DPW will monitor compliance.  DPW will record compliance in field monitoring notes.	During construction	<b>Monitoring Agency:</b>  DPW  <b>Enforcement Agency:</b>  CDFG, USFWS

TABLE 1  
Mitigation Monitoring and Reporting Program (MMRP)  
Joint Dominguez Gap and DeForest Treatment Wetlands Project

Mitigation Measures	Mitigation Compliance Purpose	Monitoring and Reporting Actions	Monitoring Phase (Schedule)	Monitoring Agency/ Enforcement Agency
<p><b>Mitigation Measure BR-3: Biological Resources</b></p> <p>To ensure that there are no impacts to special-status species, rare plant surveys of the affected area shall be conducted prior to initiation of construction activities. If rare plants are identified Project activities shall be conducted so as to avoid impacts to the extent such avoidance is feasible. If Project activities cannot be conducted to avoid impacts to rare plants, such impacts shall be minimized or mitigated through plant relocation (if feasible) or topsoil and seed bank protection.</p>	The loss of populations of special-status plants, if present, resulting from construction activities.	<p>DPW will complete rare plant surveys, and monitor avoidance, minimization, and mitigation measures.</p> <p>DPW will report the findings of rare plant surveys in a field survey report. DPW will record compliance with measures in field monitoring notes.</p>	Prior to construction and during construction	<p><b>Monitoring Agency:</b></p> <p>DPW</p> <p><b>Enforcement Agency:</b></p> <p>CDFG</p>
<p><b>Mitigation Measure BR-4: Biological Resources</b></p> <p>Preconstruction surveys for burrowing owls shall be conducted according to California Department of Fish and Game requirements to determine whether any habitat in construction areas is occupied by burrowing owls. If burrowing owls are identified during the preconstruction surveys, construction activities shall not occur within 150 feet of active burrowing owl nest burrows during non-breeding season or within 250 feet during breeding season (February 1 through August 31), if feasible. If construction cannot be restricted as described above, passive relocation shall occur.</p>	Impacts to burrowing owl, a California and federal species of concern, from construction activities.	<p>DPW will complete burrowing owl surveys, and monitor avoidance, minimization, and mitigation measures.</p> <p>DPW will report the findings of burrowing owl surveys in a field survey report. DPW will record compliance with measures in field monitoring notes.</p>	Prior to construction and during construction	<p><b>Monitoring Agency:</b></p> <p>DPW</p> <p><b>Enforcement Agency:</b></p> <p>CDFG</p>

TABLE 1  
Mitigation Monitoring and Reporting Program (MMRP)  
Joint Dominguez Gap and DeForest Treatment Wetlands Project

Mitigation Measures	Mitigation Compliance Purpose	Monitoring and Reporting Actions	Monitoring Phase (Schedule)	Monitoring Agency/ Enforcement Agency
<p><b>Mitigation Measure BR-5: Biological Resources</b></p> <p>To minimize potential impacts to areas used as forage by migratory birds and raptors, the following measures will be implemented:</p> <ul style="list-style-type: none"> <li>Infrastructure design including trail and lighting must be sited in previously disturbed areas, when feasible.</li> <li>Safety lighting must be directional or pointed downward to reduce effects on wildlife.</li> <li>Implement Mitigation Measure BR-2.</li> </ul>	To minimize impacts to foraging or migratory birds regulated under the federal Migratory Bird Treaty Act and other state regulations, resulting from construction activities.	<p>DPW will monitor compliance.</p> <p>DPW will record compliance in field monitoring notes.</p>	During construction and operation	<p><b>Monitoring Agency:</b></p> <p>DPW</p> <p><b>Enforcement Agency:</b></p> <p>CDFG, USFWS</p>
<b>GEOLOGY AND SOILS</b>				
<p><b>Mitigation Measure GS-1: Geology and Soils</b></p> <p>At least one of the following measures to control soil erosion or loss of topsoil will be implemented:</p> <ul style="list-style-type: none"> <li>The area disturbed by clearing, grading, earth moving, or excavation operations shall be as small as feasible to prevent excessive dust.</li> <li>Pregrading/excavation activities shall include watering the area to be graded or excavated before commencement of grading or excavation. Application of water must penetrate sufficiently to minimize fugitive dust during grading activities.</li> <li>Trucks are required to have their loads covered going offsite.</li> <li>Graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved onsite roadways, must be treated to prevent fugitive dust. Treatment shall include, but not be limited to, periodic watering and/or roll compaction as appropriate. Watering shall be done at least twice daily.</li> </ul>	The temporary creation of areas of exposed soils could temporarily result in soil erosion or loss of topsoil.	<p>DPW will observe Project construction activities to verify implementation of control measures for soil erosion or loss of topsoil.</p> <p>DPW will record observations in field monitoring notes.</p>	During construction	<p><b>Monitoring Agency:</b></p> <p>DPW</p> <p><b>Enforcement Agency:</b></p> <p>SCAQMD</p>

TABLE 1  
Mitigation Monitoring and Reporting Program (MMRP)  
Joint Dominguez Gap and DeForest Treatment Wetlands Project

Mitigation Measures	Mitigation Compliance Purpose	Monitoring and Reporting Actions	Monitoring Phase (Schedule)	Monitoring Agency/ Enforcement Agency
<ul style="list-style-type: none"> <li>Inactive graded and/or excavated areas shall be monitored at least weekly for dust stabilization. Soil stabilization methods, such as water and roll compaction, shall be implemented periodically over portions of the construction site that are inactive for over 4 days.</li> <li>During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), clearing, grading, earth-moving, and excavation operations shall be curtailed to the degree necessary to prevent fugitive dust created by onsite activities and operations from being a nuisance or hazard to offsite properties.</li> <li>Adjacent streets and roads shall be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.</li> </ul>				
<b>HYDROLOGY and WATER QUALITY</b>				
<p><b>Mitigation Measure W-1: Hydrology and Water Quality</b></p> <p>Prior to the initiation of ground disturbing activity, DPW (or its designee) shall obtain Project approval from the State Water Resources Control Board (SWRCB) under the National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated with Construction Activity (General Permit). This includes submitting a Notice of Intent (NOI) to the SWRCB and developing and implementing a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall identify the potential sources of sediment and other pollutants that may affect the quality of stormwater discharge, and shall specify Best Management Practices (BMPs) to prevent or minimize the introduction of sediment and pollutants into surface waters from the Project site. BMP methods of erosion and sediment control may include straw bales, silt fences, and other control techniques. Monitoring and maintenance requirements shall be specified in the SWPPP.</p>	Changes in topography and the presence of excavated and/or unprotected soil could affect stormwater runoff.	<p>DPW will observe Project construction activities to verify implementation of BMPs and compliance with monitoring requirements set forth by RWQCB in the General Permit and SWPPP.</p> <p>DPW will record observations in field monitoring notes.</p>	During construction	<p><b>Monitoring Agency:</b></p> <p>DPW</p> <p><b>Enforcement Agency:</b></p> <p>RWQCB</p>

TABLE 1  
Mitigation Monitoring and Reporting Program (MMRP)  
Joint Dominguez Gap and DeForest Treatment Wetlands Project

Mitigation Measures	Mitigation Compliance Purpose	Monitoring and Reporting Actions	Monitoring Phase (Schedule)	Monitoring Agency/ Enforcement Agency
<b>Mitigation Measure W-2: Hydrology and Water Quality</b>  Prior to the initiation of activities within the bed and bank of the Los Angeles River, DPW (or its designee) shall obtain Project approval from the RWQCB (401 Water Quality Certification); CDFG (1600 Streambed Alteration Agreement); and USACE (404 Permit). These Project approvals shall specify potential sources of sediment and other pollutants that may affect the quality of the River, and shall specify BMPs to prevent or minimize the introduction of sediment and pollutants into surface waters of the River. BMP methods of erosion and sediment control may include straw bales, silt fences, and other control techniques. Monitoring and maintenance requirements shall be specified in these Project approvals. Vehicle maintenance and fueling shall be restricted from areas within 50 feet of the bank of the river. Following construction within the river, the bed of the river must be returned to existing grade.	Construction activities occurring within the river may cause sediment to be washed into surface waters of the U.S. which could impact water quality.	DPW will prepare a complete permit submittal package for distribution to resource agencies, and will comply with mitigation and monitoring requirements set forth by the resource agencies.	As specified by permit agreements with resource agencies	<b>Monitoring Agency:</b> DPW  <b>Enforcement Agency:</b> USACE CDFG RWQCB
<b>NOISE</b>				
<b>Mitigation Measure N-1: Noise</b>  To minimize the adverse effects of construction noise on normal activities of residents in the vicinity of the proposed Project, temporary noise barriers consisting of acoustical curtains must be used along the west side of work areas, as needed.	Construction noise on normal activities of residents in the vicinity of the proposed Project.	DPW will verify implementation of temporary noise barriers.  DPW will record implementation of noise barriers in field monitoring notes.	During construction	<b>Monitoring Agency:</b> DPW  <b>Enforcement Agency:</b> City of Long Beach

**Notes:**

BMP = Best Management Practice  
 CDFG = California Department of Fish and Game  
 DPW = County of Los Angeles Department of Public Works  
 NPDES = National Pollutant Discharge Elimination System  
 PM<sub>10</sub> = particulate matter with a diameter of 10 micrometers or less  
 RWQCB = California Regional Water Quality Control Board

SCAQMD = South Coast Air Quality Management District  
 SWPPP = Storm Water Pollution Prevention Plan  
 SWRCB = State Water Resources Control Board  
 USACE = U.S. Army Corps of Engineers  
 USFWS = U.S. Fish and Wildlife Service

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*Report*

# **Findings of Fact**

## **Joint Dominguez Gap and DeForest Treatment Wetlands Project**

(SCH #2005011101)

Findings by  
**County of Los Angeles  
Department of Public Works**

900 South Fremont Avenue  
Alhambra, California 91803

November 2005



3 Hutton Centre Drive, Suite 200  
Santa Ana, California 92707

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# Acronyms and Abbreviations

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BMP	Best Management Practice
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
County	County of Los Angeles
DPW	Department of Public Works
EIR	Environmental Impact Report
MMRP	Mitigation Monitoring and Reporting Program
NOA	Notice of Availability
NOC	Notice of Completion
NOI	Notice of Intent
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
PM <sub>10</sub>	particulate matter with a diameter of 10 micrometers or less
Project	Joint Dominguez Gap and DeForest Treatment Wetlands Project
SCAQMD	South Coast Air Quality Management District
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service

# 1.0 Introduction

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Having received, reviewed and considered the information contained in the Final Environmental Impact Report (EIR) for the Joint Dominguez Gap and DeForest Treatment Wetlands Project (Project), the Board of Supervisors hereby makes findings in accordance with Sections 21081, 21081.5 and 21081.6 of the Public Resources Code as follows:

Except as otherwise noted, these findings incorporate the facts and discussions of environmental impacts that are found in the Final EIR for the Project as if fully set forth herein.

Mitigation measures as referenced in the Mitigation Monitoring and Reporting Program (MMRP) in Section 3 of the Final EIR are hereby adopted with these findings.

The following documents are part of the record of the proceedings upon which the Board of Supervisors' decision is based in this matter:

- The Notice of Preparation (NOP; January 21, 2005) for the proposed Project;
- The Draft EIR for the proposed Project (June 2005) and all its supporting technical studies, which was advertised via a Notice of Availability (NOA) dated June 24, 2005;
- All comments submitted by agencies or members of the public during the 45-day comment period (June 24 – August 9, 2004) on the Draft EIR;
- The Final EIR for the proposed Project (November 2005), including comments received on the Draft EIR, responses to those comments, and the MMRP for the proposed Project;
- All reports, studies, memoranda, maps, and related documents prepared by the County of Los Angeles (the County) or responsible or trustee agencies with respect to the requirements of the California Environmental Quality Act (CEQA) and with respect to the County's action on the proposed Project;
- All documents submitted to the County by other public agencies or members of the public in connection with the proposed Project, up through the completion of the Final EIR;
- Minutes, verbatim transcripts, and/or information gathered from all information sessions, public meetings, and/or public hearings held by the County in connection with the proposed Project;
- Any documentary or other evidence submitted to the County at such information sessions, public meetings, and public hearings;
- Matters of common knowledge to the County, including but not limited to federal, state, and local laws and regulations;
- Any documents expressly cited in these findings, in addition to those cited above; and
- Any other materials required for the record of proceedings by Public Resources Code Section 21167.6, subdivision (e).

The location of the documents and other materials constituting the record of the proceedings upon which the Board of Supervisors' decision is based in this matter is the Los Angeles County Department of Public Works (DPW), Watershed Management Division, 900 South Fremont Avenue, 11<sup>th</sup> Floor, Alhambra, CA 91803. The custodian of such documents and materials shall be the Assistant Deputy Director for the Watershed Management Division, Los Angeles County Department of Public Works.

## 2.0 Project Description

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### 2.1 Project Background

An Initial Study was prepared for this project in compliance with CEQA, as set forth in Public Resources Code Section 21000 *et seq.*, the State CEQA Guidelines, and the environmental document reporting procedures and guidelines of the County of Los Angeles. The Initial Study concluded that there was substantial evidence that the project may have a significant effect on the environment and determined that an EIR would be required.

A Draft EIR was prepared in accordance with CEQA to address potential environmental impacts of the proposed Project. The proposed Project is located in the City of Long Beach and consists of the construction and operation of improvements at the existing Dominguez Gap Spreading Grounds and Market Street Basin. The proposed Project would implement a multipurpose wetland development that would provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation, and education; be safe for passive public use; and require minimal maintenance while retaining the existing flood control capacity.

The County of Los Angeles is the Lead Agency under CEQA and has independently evaluated, directed, and supervised the preparation of the Draft and Final EIRs.

The Draft EIR, dated June 2005, State Clearinghouse Number 2005011101, was distributed to public agencies and the general public by DPW on June 24, 2005, for a 45-day public review period. Availability of the Draft EIR for public review was provided by posting an NOA at the Los Angeles County Clerks Office, publication of public notice in the Los Angeles Times, and filing a Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Planning and Research. The notices included a list of locations where the document was available for review. Public comments on the Draft EIR were also solicited at a public hearing that was held on July 13, 2005. No substantive comments on content of the Draft EIR or other environmental issues related to the proposed Project were received at the public hearing.

Three comment letters were received during the public comment period. The Final EIR includes a copy of all comment letters submitted to DPW and contains responses to significant environmental issues raised in the letters, in accordance with State CEQA Guidelines Sections 15088 and 15132. The Final EIR also includes the Draft EIR and an MMRP.

### 2.2 Project Objectives

CEQA requires that an EIR include a statement of project objectives. The statement of objectives will assist DPW and the decisionmakers to develop a reasonable range of alternatives to evaluate in the EIR and to prepare these findings of fact.

The objectives of the proposed Project are as follows:

- Provide treatment wetlands with riparian and wetland habitat, enhanced groundwater recharge, and passive recreational and educational opportunities to the general public
- Provide a community asset that is a point of interest along the Los Angeles River and within the City of Long Beach
- Improve water quality for groundwater recharge and Los Angeles River discharge
- Result in no net loss of flood control capacity
- Result in no net loss of groundwater recharge
- Improve and expand habitat for wetland and riparian species
- Expand passive recreation opportunities for the City of Long Beach and other local communities
- Provide an environmental education resource for local schools and the general public

## 2.3 Project Location

The proposed Project is located in the City of Long Beach, California, and is adjacent to the Los Angeles River. Most of the proposed Project site is east of the Los Angeles River and is bound by DeForest Park at the north and the Metro Blue Line at the south. The southern most segment is west of the Los Angeles River and is bound by the Metro Blue Line at the north and extends approximately 2,000 feet south towards Interstate 405.

## 2.4 Project Description

The proposed Project is comprised of improvements at the existing Dominguez Gap Spreading Grounds and Market Street Basin. The proposed Project would implement a multipurpose wetland development that would provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation, and education; be safe for passive public use; and require minimal maintenance while retaining the existing flood control capacity.

The proposed Project elements include the following:

- Landscape and planting of native plant communities
- Construction and operation of an extensive treatment wetland with riparian and wetland habitat in the East Basin of Dominguez Gap Spreading Grounds
- Construction and maintenance of riparian habitat along the edges of the West Basin of Dominguez Gap Spreading Grounds
- Attainment of enhanced groundwater recharge in the West Basin that is equal or greater than the current recharge of the East and West Basins combined
- Construction and maintenance of wetland and riparian habitat in the Market Street Basin

- Placement of passive recreational features such as trails, bird blinds, shade structures, and interpretive signage at both sites
- Construction and operation of trash removal devices at major storm drain outlets to all basins
- Construction and operation of a Los Angeles River water diversion structure to divert water to the Market Street Basin
- Utilization of the existing diversion structure from the River to East Basin of Dominguez Gap Spreading Grounds

## 3.0 Significant Environmental Effects and Mitigation Measures

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The Final EIR identifies environmental effects (or “impacts”) anticipated to be produced by the Project that are considered potentially significant prior to the application of mitigation measures. All of the potentially significant impacts, including cumulative impacts, would be reduced to less-than-significant levels through implementation of feasible mitigation measures.

This section sets forth in detail the potentially significant environmental impacts of the Project and the mitigation measures that are proposed. Impacts are associated with the time period during which they would be expected to occur: construction-period (short-term impacts) versus operational (long-term impacts). Potential environmental impacts that are not significant and for which no mitigation measures have been proposed are not discussed in this document. For each of the potentially significant Project impacts, the following information is provided:

- Significance Criteria – Standards to which the proposed Project is subject for determining whether a significant impact would occur.
- Description of Potentially Significant Effect – A specific description of each potentially significant environmental impact and cumulative impact identified in the Final EIR.
- Required Mitigation – Mitigation measures or actions that will be required for implementation as part of the proposed Project.
- Finding – One of three findings is made in accordance with Section 21081 of the California Public Resources Code and Section 15091 of the State CEQA Guidelines.
- Rationale – A summary of the reasons for the finding.
- Reference – A notation on the specific section in the EIR that includes the evidence and discussion of the identified potentially significant environmental impact.

### 3.1 Air Quality

#### 3.1.1 Significance Criteria

Impacts to air quality are considered significant if construction or operation of the proposed Project would do any of the following:

- Conflict with, or obstruct implementation of, the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria pollutant for which the proposed Project region is in nonattainment under an applicable federal or state ambient

air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)

- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

The South Coast Air Quality Management District CEQA Air Quality Handbook (SCAQMD, 1993) lists the following pollutant levels as significant for construction projects:

<b>Pollutant</b>	<b>Daily Significance Threshold (lb/day)</b>
Reactive Organic Gases	75
Nitrogen Oxides	100
Carbon Monoxide	550
Particulate Matter (PM <sub>10</sub> )	150
Sulfur Oxides	150

Impacts to air quality from the proposed Project are significant if the above daily pollutant emission levels would be exceeded during construction.

The SCAQMD CEQA Air Quality Handbook (SCAQMD, 1993) lists the following pollutant levels as significant for operation of projects:

<b>Pollutant</b>	<b>Daily Significance Threshold (lb/day)</b>
Reactive Organic Gases	55
Nitrogen Oxides	55
Carbon Monoxide	550
Particulate Matter (PM <sub>10</sub> )	150
Sulfur Oxides	150

Impacts to air quality from the proposed Project are significant if the above daily pollutant emission levels would be exceeded during operation.

### 3.1.2 Description of Potentially Significant Environmental Effects

The proposed Project would result in the following potentially significant environmental impacts, both individually and cumulatively:

- Construction emissions would result in an exceedance of the SCAQMD significance criteria for particulate matter with a diameter of 10 micrometers or less (PM<sub>10</sub>).



### 3.1.3 Required Mitigation

#### Mitigation Measure AQ-1: Air Quality

The following control measures shall be implemented during construction of the proposed Project to minimize fugitive dust emissions:

- The area disturbed by clearing, grading, earth moving, or excavation operations shall be as small as feasible to prevent excess dust.
- Pregrading/excavation activities shall include watering the area to be graded or excavated before commencement of grading or excavation. Application of water (reclaimed, if available) must penetrate sufficiently to minimize fugitive dust during grading activities.
- Trucks are required to have their loads covered as required by the SCAQMD.
- Graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved onsite roadways, shall be treated to prevent fugitive dust. Treatment shall include, but not be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll compaction as appropriate. Watering shall be done at least twice daily.
- Inactive graded and/or excavated areas shall be monitored at least weekly for dust stabilization. Soil stabilization methods, such as water and roll compaction and application of environmentally safe dust control materials, shall be periodically implemented over portions of the construction site that are inactive for over 4 days.
- Signs shall be posted to limit traffic to 15 mph or less.
- During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), clearing, grading, earth moving, and excavation operations shall be curtailed to the degree necessary to prevent fugitive dust created by onsite activities and operations from being a nuisance or hazard to offsite properties.
- Adjacent streets and roads shall be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.

### 3.1.4 Finding

**Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant effects of the Project upon air quality as identified in the Final EIR.**

### 3.1.5 Rationale for Finding

Implementation of the required mitigation measures during construction would reduce the potentially significant air quality impact and cumulative impact related to dust (PM<sub>10</sub>) to below the level of significance.

### 3.1.6 Reference

For a discussion of Air Quality impacts, see Section 3.3 in the Draft EIR.

## 3.2 Biological Resources

### 3.2.1 Significance Criteria

Impacts to biological resources are considered significant if construction or operation of the proposed Project would do any of the following:

- Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game (CDFG) or U.S. Fish and Wildlife Service (USFWS)
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pools, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites

### 3.2.2 Description of Potentially Significant Environmental Effects

The proposed Project would result in the following potentially significant environmental impacts:

- The loss of sensitive biological resources resulting from construction activities
- Impacts to breeding birds, including special-status birds, from construction activities
- The loss of populations of special-status plants, if present, resulting from construction activities
- Impacts to burrowing owls, a California and federal species of concern, from construction activities
- The loss of active bird nests or young regulated under the federal Migratory Bird Treaty Act and other state regulations, resulting from construction activities

### 3.2.3 Required Mitigation

#### **Mitigation Measure BR-1: Biological Resources**

A worker awareness handout shall be provided to all onsite personnel. The handout shall specify sensitive biological resources, protection measures, and individual responsibilities. The handout shall also identify appropriate contact procedures and personnel information should sensitive biological resources be encountered.

#### **Mitigation Measure BR-2: Biological Resources**

Vegetation shall not be cleared until June 15 (if feasible) when the young have fledged the nest, to avoid impacts to breeding birds. This will serve to avoid impacts to all breeding birds, including special-status birds such as Cooper's hawk or yellow warbler.

**Mitigation Measure BR-3: Biological Resources**

To ensure that there are no impacts to special-status species, rare plant surveys of the affected area shall be conducted prior to initiation of construction activities. If rare plants are identified, Project activities shall be conducted so as to avoid impacts to the extent such avoidance is feasible. If Project activities cannot be conducted to avoid impacts to rare plants, such impacts shall be minimized or mitigated through plant relocation (if feasible) or topsoil and seed bank protection.

**Mitigation Measure BR-4: Biological Resources**

Preconstruction surveys for burrowing owls shall be conducted according to CDFG requirements to determine whether any habitat in construction areas is occupied by burrowing owl. If burrowing owls are identified during the preconstruction surveys, construction activities shall not occur within 150 feet of active burrowing owl nest burrows during non-breeding season or within 250 feet during breeding season (February 1 through August 31), if feasible. If construction cannot be restricted, passive relocation shall occur.

**Mitigation Measure BR-5: Biological Resources**

To minimize potential impacts to areas used as forage by migratory birds and raptors, the following measures will be implemented:

- Infrastructure design including trail and lighting must be sited in previously disturbed areas, when feasible.
- Safety lighting must be directional or pointed downward to reduce effects on wildlife.
- Implement Mitigation Measure BR-2.

**3.2.4 Finding**

**Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant effects of the Project on biological resources as identified in the Final EIR.**

**3.2.5 Rationale for Finding**

Implementation of the required mitigation measures during construction would reduce potentially significant biological resources impacts to below the level of significance. No cumulative impacts on biological resources would occur as a result of the Project. The mitigation measures require specific procedures to minimize or avoid impacts on biological resources, including the following:

- Measures to protect sensitive biological resources
- Breeding bird, including special-status bird, mitigation
- Measures to avoid, minimize, or mitigate impacts to special-status plant species
- Burrowing owl mitigation
- Migratory bird and raptor mitigation

### 3.2.6 Reference

For a discussion of Biological Resources impacts, see Section 3.4 in the Draft EIR.

## 3.3 Geology and Soils

### 3.3.1 Significance Criteria

Impacts to geology and soils are considered significant if construction or operation of the proposed Project would do any of the following:

- Result in substantial soil erosion or loss of topsoil
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse

### 3.3.2 Description of Potentially Significant Effects

The proposed Project would result in the following potentially significant impacts, both individually and cumulatively:

- The temporary exposure of soils could result in soil erosion or loss of topsoil during construction.

### 3.3.3 Proposed Mitigation

#### **Mitigation Measure GS-1: Geology and Soils**

At least one of the following measures to control soil erosion or loss of topsoil will be implemented:

- The area disturbed by clearing, grading, earth moving, or excavation operations shall be as small as feasible to prevent excessive dust.
- Pregrading/excavation activities shall include watering the area to be graded or excavated before commencement of grading or excavation. Application of water must penetrate sufficiently to minimize fugitive dust during grading activities.
- Trucks are required to have their loads covered going offsite.
- Graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved onsite roadways, must be treated to prevent fugitive dust. Treatment shall include, but not be limited to, periodic watering and/or roll compaction as appropriate. Watering shall be done at least twice daily.
- Inactive graded and/or excavated areas shall be monitored at least weekly for dust stabilization. Soil stabilization methods, such as water and roll-compaction, shall be implemented periodically over portions of the construction site that are inactive for over 4 days.
- During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), clearing, grading, earth-moving, and excavation operations shall be curtailed to the degree necessary to prevent fugitive dust created by onsite activities and operations from being a nuisance or hazard to offsite properties.

- Adjacent streets and roads shall be swept at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.

### 3.3.4 Finding

**Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant effects of the Project upon geology and soils as identified in the Final EIR.**

### 3.3.5 Rationale for Finding

Implementation of the required mitigation measure during construction would reduce the potentially significant geology and soils impact to below the level of significance by minimizing areas of exposed soils.

### 3.3.6 Reference

For a discussion of Geology and Soils impacts, see Section 3.5 in the Draft EIR.

## 3.4 Hydrology and Water Quality

### 3.4.1 Significance Criteria

Impacts to hydrology and water quality are considered significant if construction or operation of the proposed Project would do any of the following:

- Violate any water quality standards or waste discharge requirements
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion onsite or offsite
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam

### 3.4.2 Description of Potentially Significant Effects

The proposed Project would result in the following potentially significant environmental impacts, both individually and cumulatively:

- Changes in the topography and the presence of excavated and/or unprotected soil could affect stormwater runoff.
- Construction activities occurring within the Los Angeles River may cause sediment to be washed into surface waters of the United States, which could impact water quality.

### 3.4.3 Proposed Mitigation

#### **Mitigation Measure W-1: Hydrology and Water Quality**

Prior to the initiation of ground disturbing activity, the DPW (or its designee) shall obtain Project approval from the State Water Resources Control Board (SWRCB) under the

National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated with Construction Activity (General Permit). This includes submitting a Notice of Intent (NOI) to the SWRCB and developing and implementing a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall identify the potential sources of sediment and other pollutants that may affect the quality of stormwater discharge, and shall specify Best Management Practices (BMPs) to prevent or minimize the introduction of sediment and pollutants into surface waters from the Project site. BMP methods of erosion and sediment control may include straw bales, silt fences, and other control techniques. Monitoring and maintenance requirements shall be specified in the SWPPP.

### **Mitigation Measure W-2: Hydrology and Water Quality**

Prior to the initiation of activities within the bed and bank of the Los Angeles River, the DPW (or its designee) shall obtain Project approval from the RWQCB (401 Water Quality Certification); CDFG (1600 Streambed Alteration Agreement); and United States Army Corps of Engineers (USACE) (404 Permit). These Project approvals shall specify potential sources of sediment and other pollutants that may affect the quality of the Los Angeles River, and shall specify BMPs to prevent or minimize the introduction of sediment and pollutants into surface waters of the Los Angeles River. BMP methods of erosion and sediment control may include straw bales, silt fences, and other control techniques. Monitoring and maintenance requirements shall be specified in these Project approvals. Vehicle maintenance and fueling shall be restricted from areas within 50 feet of the bank of the Los Angeles River. Following construction within the Los Angeles River, the bed of the Los Angeles River must be returned to existing grade.

### **3.4.4 Finding**

**Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant effects of the Project upon hydrology and water quality as identified in the Final EIR.**

### **3.4.5 Rationale for Finding**

Implementation of the required mitigation measures during construction would reduce the potentially significant hydrology and water quality impacts to below the level of significance. These proposed mitigation measures require specific procedures to minimize or avoid impacts on hydrology and water quality, including the following:

- Measures to prevent or minimize the introduction of sediment and pollutants into surface waters from the Project site
- Measures to prevent or minimize the introduction of sediment and pollutants into surface waters of the Los Angeles River, including waters of the United States

### **3.4.6 Reference**

For a discussion of Hydrology and Water Quality impacts, see Section 3.7 in the Draft EIR.

## **3.5 Noise**

### **3.5.1 Significance Criteria**

Noise impacts are considered significant if the proposed Project would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
- A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project

### 3.5.2 Description of Potentially Significant Effects

The proposed Project would result in the following potentially significant impacts, both individually and cumulatively:

- Construction noise could affect normal activities of residents in the vicinity of the proposed Project.

### 3.5.3 Proposed Mitigation

#### **Mitigation Measure N-1: Noise**

To minimize the adverse effects of construction noise on normal activities of residents in the vicinity of the proposed Project, temporary noise barriers consisting of acoustical curtains must be used along the west side of work areas, as needed.

### 3.5.4 Finding

**Changes or alterations have been required in, or incorporated into, the Project which avoid or substantially lessen the significant noise-related effects of the Project as identified in the Final EIR.**

### 3.5.5 Rationale for Finding

By implementing temporary noise barriers during construction, the proposed mitigation measure would reduce the potentially significant noise impact to below the level of significance.

### 3.5.6 Reference

For a discussion of Noise impacts, see Section 3.8 in the Draft EIR.

CEQA APPENDIX D:  
NOTICE OF DETERMINATION

To: ☒ Office of Planning and Research

From: Public Agency: County of Los Angeles Department of Public Works, Watershed Management Division

Address: 900 S. Fremont Avenue, 11<sup>th</sup> Floor  
Alhambra, CA 90813

For U.S. Mail:

P.O. Box 3044

Sacramento, CA 95812

Street Address:

1400 Tenth Street

Sacramento, CA 98514

Contact: Maria T. Lopez

Phone: (626) 548-4342

☒ County Clerk

County of: Los Angeles

Address: 12400 E. Imperial Hwy. Rm. 2001

Norwalk, CA 90650-8301

**Subject: Filing of Notice of Determination in compliance with Section 21108 or 21152 of the Public Resources Code.**

State Clearinghouse Number (if submitted to Clearinghouse): 2005011101

Project Title:

Joint Dominguez Gap and DeForest Treatment Wetlands Project

Project Location (include county)

The Project is located within the City of Long Beach and is comprised of improvements at the existing Dominguez Gap Spreading Grounds and Market Street Basin

Project Description:

The Project would implement a multipurpose wetland development that would provide wildlife habitat, water quality improvement, groundwater recharge, passive recreation, and education, be safe for passive public use, and require minimal maintenance while retaining the existing flood control capacity.

This is to advise that the County of Los Angeles Department of Public Works has approved the above described project on ( ☒ Lead Agency or ☐ Responsible Agency )

January 17, 2006 and has made the following determinations regarding the above described project:  
(Date)

1. The project [ ☐ will ☒ will not ] have a significant effect on the environment.
2. ☒ An Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.  
☐ A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures [ ☒ were ☐ were not ] made a condition of the approval of the project.
4. A mitigation reporting or monitoring plan [ ☒ was ☐ was not ] adopted for this project.
5. A statement of Overriding Considerations [ ☐ was ☒ was not ] adopted for this project.
6. Findings [ ☒ were ☐ were not ] made pursuant to the provisions of CEQA.

This is to certify that the final EIR with comments and responses and record of project approval, or the Negative Declaration, is available to the General Public at: 900 S. Fremont Avenue, 11<sup>th</sup> Floor. Alhambra, CA 91803

Signature (Public Agency)

Title

Date:

Date received for filing at OPR: